



NRL/MR/7440--10-9219

MIL-STD-2411-1 Change 3 Notice Impacts to NAVAIR

MICHAEL E. TRENCHARD

*Geospatial Sciences and Technology Branch
Marine Geosciences Division*

July 30, 2010

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REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
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1. REPORT DATE (DD-MM-YYYY) 30-07-2010		2. REPORT TYPE Memorandum Report		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE MIL-STD-2411-1 Change 3 Notice Impacts to NAVAIR				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Michael E. Trenchard				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER 74-5759-1-9-5	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Research Laboratory Marine Geosciences Division Stennis Space Center, MS 39529-5004				8. PERFORMING ORGANIZATION REPORT NUMBER NRL/MR/7440--10-9219	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Naval Air Systems Command Tactical Aircraft Moving Map Program PMA-209 47123 Buse Road IPT Patuxent River, MD 20670-1547				10. SPONSOR / MONITOR'S ACRONYM(S) NAVAIR	
				11. SPONSOR / MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT The MIL-STD-2411-1 Change 3 notice proposes to implement 95 new data codes to the existing set of data codes as part of the military standard to support production of Raster Product Format (MIL-STD-2411) compliant data such as Compressed ARC Digitized Raster Graphics (CADRG) and Controlled Image Base (CIB). Most standard CADRG and CIB produced by the National Geospatial-Intelligence Agency (NGA) are referenced by a unique two character data code as listed in section 5.1.4 of MIL-STD-2411-1. These data codes reference the chart series and / or scale of the CADRG or CIB that is produced. NAVAIR programs that utilize any RPF complaint map data products must be aware and plan accordingly for the proposed data code changes to MIL-STD-2411-1. At a minimum, any system documentation referencing MIL-STD-2411-1 will need to be modified to reference the newer standard once approved.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 74	19a. NAME OF RESPONSIBLE PERSON Michael E. Trenchard
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (include area code) (288) 688-4633

MIL-STD-2411-1 Change 3 Notice Impacts to NAVAIR

Michael E. Trenchard

Naval Research Laboratory Code 7440.1, Stennis Space Center, MS 39529 USA

BACKGROUND

The MIL-STD-2411-1 Change 3 notice (appendix 1) proposes to implement 95 new data codes to the existing set of data codes as part of the military standard to support production of Raster Product Format (MIL-STD-2411) compliant data such as Compressed ARC Digitized Raster Graphics (CADRG) and Controlled Image Base (CIB). Most standard CADRG and CIB produced by the National Geospatial-Intelligence Agency (NGA) are referenced by a unique two character data code as listed in section 5.1.4 of MIL-STD-2411-1 (see appendix 2). These data codes reference the chart series and / or scale of the CADRG or CIB that is produced. For example, a tactical pilotage chart (TPC) is a standard aeronautical chart widely used throughout the military. A TPC is nominally a 1:500,000 scale map and its equivalent CADRG data code is "TP". Therefore, all TPC CADRG file names are encoded with a suffix that begins with the two character data code "TP". A valid CADRG TPC filename would be "000ue293.tp3" where the first two characters of the suffix is the data code and the third character of the suffix represents the map zone (reference MIL-C-89038 section 30.6 for more detail). However, NGA produces other charts in RPF format to support military operations that were not assigned a unique data code in the current MIL-STD-2411-1 specification. For these other charts, a data code is assigned that is not unique to that chart's particular series. For example, North Atlantic Route Charts (1:5M scale) charts are currently assigned the data code "GN" which is the same data code originally assigned to Global Navigation Charts (1:5M scale). A mission planning system, for example, would be unable to uniquely distinguish between a North Atlantic Route Chart and a Global Navigation Chart of the same geographic region just given its filename based upon data code. This Change 3 notice (when implemented) would, for example, uniquely assign North Atlantic Route Charts with a data code of "EG". Further, other charts such as IFR Enroute Low Altitude (1:1M scale) charts are currently assigned the catch-all data code of "MM". This data code exists in the current MIL-STD-2411-1 specification and represents "miscellaneous maps". Again, a mission planning system, for example, would be unable to uniquely identify the chart series or, in this case, even the map scale based upon the data code.

IMPACT ASSESSMENT

NAVAIR programs that utilize any RPF complaint map data products must be aware and plan accordingly for the proposed data code changes to MIL-STD-2411-1. At a minimum, any system documentation referencing MIL-STD-2411-1 will need to be modified to reference the newer standard once approved. Further impacts will exist to those programs that utilize RPF map data that was not uniquely identified in MIL-STD-

2411-1 Change Notice 2 (31 March 2004) or earlier. For example, those programs that currently utilize North Atlantic Route Charts in mission planning should make plans for future implementation of the new data code that will be utilized for that chart series. NGA does not plan to begin any changes to production for the newly proposed data codes until at least December 2010. If there are problems trying to POM (Program Objective Memorandum) for funds to implement changes within that time frame, these issues should be addressed to NGA. All NAVAIR programs utilizing RPF data products are urged to review section 5.1.4 of the proposed MIL-STD-2411 Change 3 specification to ensure that:

- 1) Any map types implemented or planned in the future are listed in this change notice.
- 2) Identify which map types implemented or planned will change to a unique data code.
- 3) Whether implementation to system changes may extend beyond December 2010.

A CADRG data code series crosswalk spreadsheet is included in Appendix 3 which lists the current data codes in production (or planned) and the new data codes once Change 3 is approved and implemented. Please note that no older data codes are being eliminated and those codes will remain in use as originally intended to provide a unique identifier for those chart series.

The TAMMAC (Tactical Aircraft Moving MAP Capability) Program will not be impacted by this change to the MIL-STD-2411-1 change since the CADRG chart series supported within TAMMAC are identified by data codes originally intended for those chart series. However, all system documentation should be updated to reflect the new standard once approved.

ACKNOWLEDGEMENTS

This work was funded by the Naval Air Systems Command PMA-209 (Program Element 0604215N). The author wishes to thank Mr. Robert Matthews (TAMMAC IPT lead) and Mr. Patrick Clausius (PM 209 TAMMAC APMSE) for their support. The author also wishes to thank Mr. Douglas Williams (Harris Corp. Melbourne, FL) for his contribution of the CADRG data series crosswalk spreadsheet.

REFERENCES

National Geospatial-Intelligence Agency. Military Standard – Compressed ARC Digitized Raster Graphics, MIL-C-89038. 6 October 1994.
Harris Corporation (2006). Database Design document for the TAMMAC Map – Data Item K00B, Revision K, Harris Corp. Government Communications Systems Division, Melbourne , FL USA. 16th March.

Appendix 1

Announcement of Draft Change Notice 3 to MIL-STD-2411-1

The purpose of this notification is to announce a change notice to MIL-STD-2411-1, Data Values for RPF. The document is a companion to MIL-STD-2411, RPF, providing registered data values necessary for the production and interpretation of RPF data. A review and comment period is now being initiated on MIL-STD-2411-1, and comments received by 30 August 2009 will be considered for this change.

The draft document is being coordinated in ASSIST Document Coordination Module, and can also be found on the Geospatial Intelligence Standards Working Group (GWG) member's web site <http://www.gwg.nga.mil/> (login required), under the NITFS Technical Board (NTB) Focus Group > Coordination Items. Modifications specific to Change 3 are indicated by sidebars in the right margin of the document. Comments should be referenced by page and section number and be accompanied by proposed alternative text, if applicable. All comments must be designated as either "essential" or "suggested" as defined in DoD 4120.24-M. An essential comment "must be of such important technical nature that its acceptance is necessary to meet the mission needs of the Military Department or Defense Agency." Essential comments must be supported by justification, otherwise they will be treated as suggested comments. Suggested comments are "technical content preferences that are not absolutely necessary to meet mission requirements." Editorial changes, general observations, and questions will be treated as suggested comments.

Background

The Military Services' Flight Information Publication (FLIP) Coordination Committee (FCC) has proposed that additional data values be included in the document in the form of data series codes associated with the standard's file naming scheme. The FCC is the central military organization for controlling FLIP paper and digital aeronautical products. It's purview is to ensure that new military requirements are proper for incorporation into the FLIP, and to consider operational needs and resource impacts of the new requirements. Once all members of the FCC approve a new requirement, NGA acts to incorporate it into the FLIP. NGA provides Executive Secretary, Requirements Liaison, and Technical Advisor functions to the FCC, ensuring that requirements are coordinated within the agency and standardized within the NSG.

The additional codes are being proposed in order to allow systems interpreting RPF to uniquely identify newer scanned map/chart products from NGA. With an insufficient number of data series codes, NGA producers are sometimes forced to give the same data series code to more than one type of Compressed Arc Digitized Raster Graphic (CADRG) product. For example, Image City Maps (ICMs) are given the same code as City Graphics (line maps). Within the interpreting system, if data exists within a coverage area for both ICM and City Graphic at the same scale, the user might only be able to view one of the two products. Having unique codes for each product would allow the system to account for more than one type of product per scale. A miscellaneous map

code was provided by the original standard, but it does not uniquely identify the product type or scale.

The registered list of RPF file name extensions has been changed once before. A 2001 change notice to the specification made numerous changes to the document, including the addition of data series codes to support scanned versions of Low Flying Charts, Transit Flying Charts, City Graphics, Combat Charts, Military Installation Maps and others. That change notice was published as a separate document, but new Defense Standardization Program (DSP) procedures require that the base document be amended whenever changes are made. A new MIL-STD-2411-1 must therefore be published, with the 2001 changes and the newly proposed codes incorporated into it.

The CADRG production system (GFE Common Mapping Production System) only produces CADRG that conforms to the CADRG performance specification and the RPF standard. NGA Enroute Charts are currently being produced as nonstandard CADRG by NGA for individual elements of the military. The frame files are named using extensions intended for standard CADRG map types. In order to avoid file name conflicts, users and system developers are currently devising a variety of disparate work-arounds in order to view the newer products.

Findings

The NGA Source Directorate was consulted with on the proposed revision. After CADRG product testing was accomplished by the NGA Production Directorate, 95 new codes were proposed to allow for newer RPF product types. These include codes for not only the Enroute Charts, but also Image City Maps, Special Military Maps, and other standard products that could be produced as CADRG. This forward-looking action will help to avoid the need to publish another amendment to the document in the near future. Additionally, in order to avoid future amendments to the document solely for the purpose of adding data value codes, a clause should be included in the amendment stating that further updates to the code lists contained in the document will be accomplished via an authoritative data value registry established in the DoD Metadata Registry at <https://metadata.dod.mil/mdr>.

Impact

This proposed change will affect more than NSG flight planning systems. Any system that interprets RPF or ECRG files could be affected. This amounts to nearly all NSG systems that ingest NGA scanned maps. After official names are given to the new product types, they would become standard NGA products and users would order them by stock number via the Defense Logistics Agency. A change to the NGA production software will be required to completely automate the production process with the new names.

MIL-PRF-32283, Enhanced Compressed Raster Graphic (ECRG), refers to MIL-STD-2411-1 for data series codes, and therefore producers and interpreters of NGA's newer-generation scanned maps will also be affected by this change.

Point of Contact

The NCGIS point of contact for this issue is Steve Rogan, NGA OCIO CE, 314-676-0292, rogans@nga.mil.

Appendix 2

METRIC

MIL-STD-2411-1
w/CHANGE 3

SUPERCEDING

MIL-STD-2411-1
Change Notice 2
31 March 2004

NOTE: This draft, dated 22 June 2009 prepared by the National Geospatial-Intelligence Agency, has not been approved and is subject to modification. DO NOT USE PRIOR TO APPROVAL. (Project GINT-2009-004)

DEPARTMENT OF DEFENSE INTERFACE STANDARD

REGISTERED DATA VALUES FOR RASTER PRODUCT FORMAT



AMSC N/A

AREA GINT

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FOREWORD

1. This Military Standard is approved for use by all Departments and Agencies of the Department of Defense.

2. Comments, suggestions or questions on this specification should be addressed to the National Geospatial-Intelligence Agency, National Center for Geospatial Intelligence Standards (NCGIS), Mail Stop P-24, 12310 Sunrise Valley Drive, Reston, VA 20191-3449, or emailed to ncgis-mail@nga.mil.

SUMMARY OF CHANGE 3 MODIFICATIONS

1. The following modifications to MIL-STD-2411-1 Change Notice 2, 31 March 2004, have been made:

<u>Paragraph</u>	<u>Modification</u>
2.1.2b	Changed
4	Changed
5.1.4	Changed
5.4	Changed
6.5	Added

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1 SCOPE

1.1 Scope

This document is a companion document to the military standard for Raster Product Format (RPF), MIL-STD-2411. It contains all registered data values referenced in the standard.

1.2 Purpose

This document is intended to supply producers and users of RPF products with the registered data values necessary to produce and interpret RPF data.

1.3 Application

The Military Departments, Office of the Secretary of Defense, Organizations of the Joint Chiefs of Staff, and the Defense Agencies of the Department of Defense (collectively known as DoD components) shall use the information in this document in preparing and accessing digital geographic data required or specified to be in RPF.

1.4 Security

This standard is UNCLASSIFIED. The registered data values presented herein may be used for classified processing where appropriate security provisions are added.

2 APPLICABLE DOCUMENTS

2.1 Government documents

2.1.1 Specifications, standards, and handbooks

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the current Department of Defense Index of Specifications and Standards (DODISS).

MIL-STD-2411 Military Standard for Raster Product
Format, with Change Notice 2

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications

The following other government documents, drawings and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

a. DIAM 65-19, Defense Intelligence Agency Standard Security Markings.
(Applications for copies should be addressed to Headquarters, Defense Intelligence Agency, Central Reference Division, Compartmented Reference Archive, ATTN: RTS-2E3, Wash., DC 20301).

b. DMA Technical Manual, DMA TM 8358.1, National Geospatial-Intelligence Agency: Datums, Ellipsoids, Grids, and Grid Reference Systems, Preliminary Edition.

<http://earth-info.nga.mil/GandG/publications/index.html>

2.2 Non-Government publications

This section is not applicable to this standard.

2.3 Order of precedence

In the event of a conflict between the text of this document and the references cited herein (except for related associated detail specifications, specification sheets, or military sheet standards) the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3 DEFINITIONS

3.1 Acronyms used in this standard

The following definitions are applicable for the purpose of this standard.

- a. ASCII American Standard Code for Information Interchange
- b. CMYK Cyan, Magenta, Yellow and Black
- c. DIAM Defense Intelligence Agency Manual
- d. NGA National Geospatial-Intelligence Agency
- e. NITF National Imagery Transmission Format
- f. RGB Red, Green, Blue
- g. RGBM Red, Green, Blue and Monochromatic
- h. RPF Raster Product Format
- i. VQ Vector Quantization

4 GENERAL REQUIREMENTS

This document provides all registered data values to be used in products that conform to the RPF military standard (MIL-STD-2411). The data includes identification codes, attribute and parameter tables, and other tables required for RPF products. RPF includes several distinct file types (e.g., [table of contents file], [frame file]). Some of the registered data values found in this document are unique to particular file types, and others are found in several different file types.

The specific registered values are listed in section 5, Detailed Requirements. The format is such that new registered values can easily be added to specific subsections. Where applicable, unused identification codes have been marked as reserved for future use.

Note: Change 3 of MIL-STD-2411-1 resulted in the addition of 102 data series codes to the table in 5.1.4.

5 DETAILED REQUIREMENTS

Section 5 is a listing of the registered data values that are used in RPF products.

Each of the subsections in section 5 will include a description of the registered data unique to that subsection, the code or ID corresponding to the data field, and, in some cases the size and data type of that code. The data types used are listed in TABLE I and defined in MIL-STD-2411. All registered data field types and sizes are defined in MIL-STD-2411.

TABLE I. Data types and their abbreviations

Data Type	Abbreviation
ASCII string	ascii
Bit string	bits
Byte string	byte
Boolean	bool
Integer (signed)	ints
Integer (unsigned)	uint
Real	real

Section 5.1 describes global data. Global data is defined here as data that can occur in more than one type of RPF file (i.e., <section/component id> values are necessary in all RPF files). Section 5.2 describes data that is used only in the [table of contents file]. Section 5.3 describes data that is used only in the [frame file].

NOTE: An "*" next to a value or row in a table indicates values or products that are used in user specified applications of RPF that have not been approved for joint use.

5.1 Global data.

Data in this section will pertain to information that may be used in more than one type of RPF file.

5.1.1 Section/Component ID codes

The following are the valid <section/component id> codes currently defined in MIL-STD-2411.

<section/component id>	[section/component]
1-127	Reserved for future standardization
128	header component
129	location component
130	coverage section subheader
131	compression section subheader
132	compression lookup subsection
133	compression parameter subsection
134	color/grayscale section subheader
135	colormap subsection
136	image description subheader
137	image display parameters subheader
138	mask subsection
139	color converter subsection
140	spatial data subsection
141	attribute section subheader
142	attribute subsection
143	explicit areal coverage table
144	related images section subheader
145	related images subsection
146	replace/update section subheader
147	replace/update table
148	boundary rectangle section subheader
149	boundary rectangle table
150	frame file index section subheader
151	frame file index subsection
152	color table index section subheader
153	color table index record
154-65535	Reserved for future standardization

5.1.2 Color/Grayscale section codes.

The following sections define the valid [color/grayscale section] codes currently defined for RPF products, which include <color/grayscale table id> codes and <color converter codes>.

The two types of table id's can be defined as traditional color/grayscale tables that contain values for the various color planes and/or bands within an image, and color converter tables,

which define a mapping between two color/grayscale tables. Sections 5.1.2.1 and 5.1.2.2 describe the two [color/grayscale] section codes in more detail.

5.1.2.1 Color table codes.

Each of the color/grayscale tables identified in the table below represents a particular organization of the color planes in the table. For example, a color table containing Red, Green and Blue (RGB) color planes would have an id of one indicating an RGB arrangement of the table. Examples of other arrangements of the color table that are currently registered in RPF include Red, Green, Blue, Monochromatic (RGBM), Monochromatic (M), and Cyan Magenta Yellow, Black (CMYK), which is often used in color printing.

<color/grayscale table id>	Description
1	RGB
2	RGBM
3	M
4	CMYK
5-65535	Reserved for future standardization

5.1.2.2 Color conversion codes.

The color conversion table maps the colors from one color/grayscale table into another color/grayscale table. If a user is unable, or does not choose, to use the primary color/grayscale table in an RPF file, the color conversion table can be used to map the primary colors into the closest matching colors within the alternate table. These names used to describe the <color/grayscale table id>'s begin with the letters CCT/. The number immediately after the slash (/) is the <color/grayscale table id> of the primary color table, and the number after the arrow (->) is the alternate color table id. In cases where the primary and alternate color tables contain the same color planes, the numbers after the slashes will be the same. In these cases the color converter table is often used to map a larger number of colors in the primary color table to a smaller number of colors in the alternate color table.

a. As an example of the use of a color conversion table, assume that an RPF file has two <color/grayscale tables id>s and one <color converter table id>. The two [color/grayscale table] are RGBM (<color/grayscale table id> = 2) and therefore the appropriate [color converter table] would map the primary RGBM into the alternate RGBM, (<color converter table id> = 5). The color conversion table is a mapping of the colors from the

primary RGBM color table to the alternate RGBM color table as shown in figure 1. A call to display a color X from the primary color table will be routed to the color conversion table, where the index of X will be mapped to the index of Y, a color in the alternate color table.

<color converter table id>	Description
1	CCT/1->1
2	CCT/1->2
3	CCT/1->3
4	CCT/1->4
5	CCT/2->2
6	CCT/2->3
7	CCT/2->4
8	CCT/3->3
10-65535	Reserved for future standardization

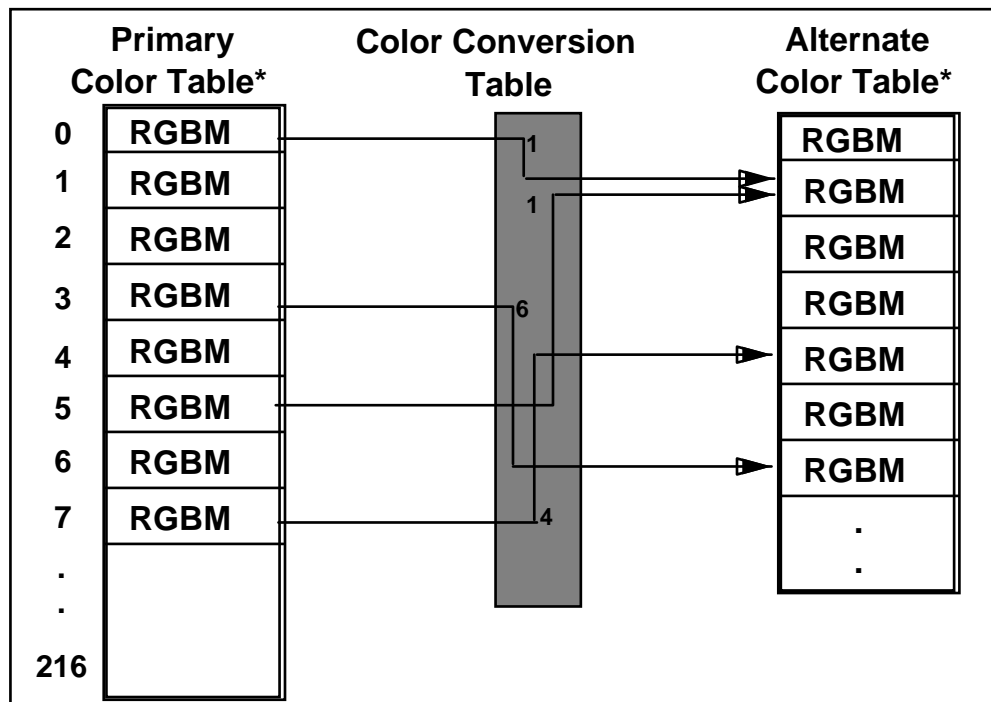


FIGURE 1. Color mapping between primary and alternate color tables

5.1.3 Zone codes

Zone codes are used in conjunction with the data series codes (5.1.4) to construct the <data series and zone> codes in 5.1.5. For products where zone code and/or data series is not applicable, the <data series and zone codes> shall consist of a

3-byte descriptor applicable to a particular product. No <data series and zone codes> are currently registered for such products.

Zone Number	Equatorward Latitude	Midpoint Latitude	Poleward Latitude
1,A	0°	22.94791772°	32°
2,B	32°	41.12682127°	48°
3,C	48°	52.28859923°	56°
4,D	56°	60.32378942°	64°
5,E	64°	66.09421768°	68°
6,F	68°	70.10896259°	72°
7,G	72°	74.13230145°	76°
8,H	76°	78.17283750°	80°
9,J	80°	—	90°

5.1.3.1 Zone codes for DTED data

Zone codes are used in conjunction with the data series codes (5.1.4) to construct the <data series and zone> codes in 5.1.5. The zone codes for RPF data that is zoned similar to DTED data have the following zone codes.

Zone Number	Equatorward Latitude	Poleward Latitude
1,6	0°	50°
2,7	50°	70°
3,8	70°	75°
4,9	75°	80°
5,A	80°	90°

5.1.4 Data series codes

The data series codes are used in conjunction with the zone codes (5.1.3) to construct the <data series and zone> codes in 5.1.5. The specific methodology for creating the data series and zone codes is described in MIL-STD-2411.

Code	Series Abbr.	Scale /resolution	Data series	RPF data type
A1	CM	1:10,000	Combat Charts, 1:10,000 scale	CADRG
A2	CM	1:25,000	Combat Charts, 1:25,000 scale	CADRG
A3	CM	1:50,000	Combat Charts, 1:50,000 scale	CADRG
A4	CM	1:100,000	Combat Charts, 1:100,000 scale	CADRG
AT	ATC	1:200,000	Series 200 Air Target Chart	CADRG
C1	CG	1:10,000	City Graphics	CADRG
C2	CG	1:10,560	City Graphics	CADRG
C3	CG	1:11,000	City Graphics	CADRG
C4	CG	1:11,800	City Graphics	CADRG
C5	CG	1:12,000	City Graphics	CADRG
C6	CG	1:12,500	City Graphics	CADRG

C7	CG	1:12,800	City Graphics	CADRG
C8	CG	1:14,000	City Graphics	CADRG
C9	CG	1:14,700	City Graphics	CADRG
CA	CG	1:15,000	City Graphics	CADRG
CB	CG	1:15,500	City Graphics	CADRG
CC	CG	1:16,000	City Graphics	CADRG
CD	CG	1:16,666	City Graphics	CADRG
CE	CG	1:17,000	City Graphics	CADRG
CF	CG	1:17,500	City Graphics	CADRG
CG	CG	Various	City Graphics	CADRG
CH	CG	1:18,000	City Graphics	CADRG
CJ	CG	1:20,000	City Graphics	CADRG
CK	CG	1:21,000	City Graphics	CADRG
CL	CG	1:21,120	City Graphics	CADRG
CM	CM	Various	Combat Charts	CADRG
CN	CG	1:22,000	City Graphics	CADRG
CO	CO	Various	Coastal Charts	CADRG
CP	CG	1:23,000	City Graphics	CADRG
CQ	CG	1:25,000	City Graphics	CADRG
CR	CG	1:26,000	City Graphics	CADRG
CS	CG	1:35,000	City Graphics	CADRG
CT	CG	1:36,000	City Graphics	CADRG
D1*	:	100m	Elevation Data from DTED Level 1	CDTED
D2*	:	30m	Elevation Data from DTED Level 2	CDTED
EG	NARC	1:11,000,000	North Atlantic Route Chart	CADRG
ES	SEC	1:500,000	VFR Sectional	CADRG
ET	SEC	1:250,000	VFR Sectional Insets	CADRG
F1	TFC-1	1:250,000	Transit Flying Chart (TBD #1)	CADRG
F2	TFC-2	1:250,000	Transit Flying Chart (TBD #2)	CADRG
F3	TFC-3	1:250,000	Transit Flying Chart (TBD #3)	CADRG
F4	TFC-4	1:250,000	Transit Flying Chart (TBD #4)	CADRG
F5	TFC-5	1:250,000	Transit Flying Chart (TBD #5)	CADRG
GN	GNC	1:5,000,000	Global Navigation Chart	CADRG
HA	HA	Various	Harbor and Approach Charts	CADRG
I1	:	10m	Imagery, 10 meter resolution	CIB
I2	:	5m	Imagery, 5 meter resolution	CIB
I3	:	2m	Imagery, 2 meter resolution	CIB
I4	:	1m	Imagery, 1 meter resolution	CIB
I5	:	.5m	Imagery, .5 (half) meter resolution	CIB
IV	:	Various > 10m	Imagery, > 10 meter resolution	CIB
JA	JOG-A	1:250,000	Joint Operations Graphic - Air	CADRG
JG	JOG	1:250,000	Joint Operations Graphic	CADRG
JN	JNC	1:2,000,000	Jet Navigation Chart	CADRG
JO	OPG	1:250,000	Operational Planning Graphic	CADRG
JR	JOG-R	1:250,000	Joint Operations Graphic - Radar	CADRG
K1	ICM	1:8,000	Image City Maps	CADRG
K2	ICM	1:10,000	Image City Maps	CADRG
K3	ICM	1:10,560	Image City Maps	CADRG
K7	ICM	1:12,500	Image City Maps	CADRG
K8	ICM	1:12,800	Image City Maps	CADRG
KB	ICM	1:15,000	Image City Maps	CADRG
KE	ICM	1:16,666	Image City Maps	CADRG
KM	ICM	1:21,120	Image City Maps	CADRG
KR	ICM	1:25,000	Image City Maps	CADRG
KS	ICM	1:26,000	Image City Maps	CADRG
KU	ICM	1:36,000	Image City Maps	CADRG

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L1	LFC-1	1:500,000	Low Flying Chart (TBD #1)	CADRG
L2	LFC-2	1:500,000	Low Flying Chart (TBD #2)	CADRG
L3	LFC-3	1:500,000	Low Flying Chart (TBD #3)	CADRG
L4	LFC-4	1:500,000	Low Flying Chart (TBD #4)	CADRG
L5	LFC-5	1:500,000	Low Flying Chart (TBD #5)	CADRG
	LFC-FR			
LF	(Day)	1:500,000	Low Flying Chart (Day)- Host Nation	CADRG
	LFC			
LN	(Night)	1:500,000	Low Flying Chart (Night) - Host Nation	CADRG
M1	MIM	Various	Military Installation Map (TBD #1)	CADRG
M2	MIM	Various	Military Installation Map (TBD #2)	CADRG
MH	MIM	1:25,000	Military Installation Maps	CADRG
MI	MIM	1:50,000	Military Installation Maps	CADRG
MJ	MIM	1:100,000	Military Installation Maps	CADRG
MM	-	Various	(Miscellaneous Maps & Charts)	CADRG
OA	OPAREA	Various	Naval Range Operating Area Chart	CADRG
OH	VHRC	1:1,000,000	VFR Helicopter Route Chart	CADRG
ON	ONC	1:1,000,000	Operational Navigation Chart	CADRG
OW	WAC	1:1,000,000	High Flying Chart – Host Nation	CADRG
P1	-	1:25,000	Special Military Map - Overlay	CADRG
P2	-	1:25,000	Special Military Purpose	CADRG
P3	-	1:25,000	Special Military Purpose	CADRG
P4	-	1:25,000	Special Military Purpose	CADRG
P5	-	1:50,000	Special Military Map - Overlay	CADRG
P6	-	1:50,000	Special Military Purpose	CADRG
P7	-	1:50,000	Special Military Purpose	CADRG
P8	-	1:50,000	Special Military Purpose	CADRG
P9	-	1:100,000	Special Military Map - Overlay	CADRG
PA	-	1:100,000	Special Military Purpose	CADRG
PB	-	1:100,000	Special Military Purpose	CADRG
PC	-	1:100,000	Special Military Purpose	CADRG
PD	-	1:250000	Special Military Map - Overlay	CADRG
PE	-	1:250000	Special Military Purpose	CADRG
PF	-	1:250000	Special Military Purpose	CADRG
PG	-	1:250000	Special Military Purpose	CADRG
PH	-	1:500000	Special Military Map - Overlay	CADRG
PI	-	1:500000	Special Military Purpose	CADRG
PJ	-	1:500000	Special Military Purpose	CADRG
PK	-	1:500000	Special Military Purpose	CADRG
PL	-	1:1000000	Special Military Map - Overlay	CADRG
PM	-	1:1000000	Special Military Purpose	CADRG
PN	-	1:1000000	Special Military Purpose	CADRG
PO	-	1:1000000	Special Military Purpose	CADRG
PP	-	1:2000000	Special Military Map - Overlay	CADRG
PQ	-	1:2000000	Special Military Purpose	CADRG
PR	-	1:2000000	Special Military Purpose	CADRG
PS	-	1:5000000	Special Military Map - Overlay	CADRG
PT	-	1:5000000	Special Military Purpose	CADRG
PU	-	1:5000000	Special Military Purpose	CADRG
PV	-	1:5000000	Special Military Purpose	CADRG
R1	-	1:50,000	Range Charts	CADRG
R2	-	1:100,000	Range Charts	CADRG
R3	-	1:250,000	Range Charts	CADRG
R4	-	1:500,000	Range Charts	CADRG
R5	-	1:1,000,000	Range Charts	CADRG
RC	RGS-100	1:100,000	Russian General Staff Maps	CADRG

RL	RGS-50	1:50,000	Russian General Staff Maps	CADRG
RR	RGS-200	1:200,000	Russian General Staff Maps	CADRG
RV	Riverine	1:50,000	Riverine Map 1:50,000 scale	CADRG
TC	TLM100	1:100,000	Topographic Line Map 1:100,000 scale	CADRG
	TFC			
TF	(Day)	1:250,000	Transit Flying Chart (Day)	CADRG
TL	TLM50	1:50,000	Topographic Line Map	CADRG
	TFC			
TN	(Night)	1:250,000	Transit Flying Chart (Night) - Host nation	CADRG
TP	TPC	1:500,000	Tactical Pilotage Chart	CADRG
TQ	TLM24	1:24,000	Topographic Line Map 1:24,000 scale	CADRG
TR	TLM200	1:200,000	Topographic Line Map 1:200,000 scale	CADRG
TT	TLM25	1:25,000	Topographic Line Map 1:25,000 scale	CADRG
	TLM50-			
UL	Other	1:50,000	Topographic Line Map (other 1:50,000 scale)	CADRG
	HRC			
V1	Inset	1:50,000	Helicopter Route Chart Inset	CADRG
	HRC			
V2	Inset	1:62,500	Helicopter Route Chart Inset	CADRG
	HRC			
V3	Inset	1:90,000	Helicopter Route Chart Inset	CADRG
	HRC			
V4	Inset	1:250,000	Helicopter Route Chart Inset	CADRG
VH	HRC	1:125,000	Helicopter Route Chart	CADRG
VN	VNC	1:500,000	Visual Navigation Charts	CADRG
VT	VTAC	1:250,000	VFR Terminal Area Chart	CADRG
WA	-	1:250,000	IFR Enroute Low	CADRG
WB	-	1:500,000	IFR Enroute Low	CADRG
WC	-	1:750,000	IFR Enroute Low	CADRG
WD	-	1:1,000,000	IFR Enroute Low	CADRG
WE	-	1:1,500,000	IFR Enroute Low	CADRG
WF	-	1:2,000,000	IFR Enroute Low	CADRG
WG	-	1:2,500,000	IFR Enroute Low	CADRG
WH	-	1:3,000,000	IFR Enroute Low	CADRG
WI	-	1:3,500,000	IFR Enroute Low	CADRG
WK	-	1:4,500,000	IFR Enroute Low	CADRG
XD	-	1:1,000,000	IFR Enroute High	CADRG
XE	-	1:1,500,000	IFR Enroute High	CADRG
XF	-	1:2,000,000	IFR Enroute High	CADRG
XG	-	1:2,500,000	IFR Enroute High	CADRG
XH	-	1:3,000,000	IFR Enroute High	CADRG
XI	-	1:3,500,000	IFR Enroute High	CADRG
XJ	-	1:4,000,000	IFR Enroute High	CADRG
XK	-	1:4,500,000	IFR Enroute High	CADRG
Y9	-	1:16,500,000	IFR Enroute Area	CADRG
YA	-	1:250,000	IFR Enroute Area	CADRG
YB	-	1:500,000	IFR Enroute Area	CADRG
YC	-	1:750,000	IFR Enroute Area	CADRG
YD	-	1:1,000,000	IFR Enroute Area	CADRG
YE	-	1:1,500,000	IFR Enroute Area	CADRG
YF	-	1:2,000,000	IFR Enroute Area	CADRG
YI	-	1:3,500,000	IFR Enroute Area	CADRG
YJ	-	1:4,000,000	IFR Enroute Area	CADRG
YZ	-	1:12,000,000	IFR Enroute Area	CADRG
Z8	-	1:16,000,000	IFR Enroute High/Low	CADRG
ZA	-	1:250,000	IFR Enroute High/Low	CADRG

<u>ZB</u>	-	<u>1:500,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZC</u>	-	<u>1:750,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZD</u>	-	<u>1:1,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZE</u>	-	<u>1:1,500,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZF</u>	-	<u>1:2,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZG</u>	-	<u>1:2,500,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZH</u>	-	<u>1:3,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZI</u>	-	<u>1:3,500,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZJ</u>	-	<u>1:4,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZK</u>	-	<u>1:4,500,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZT</u>	-	<u>1:9,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZV</u>	-	<u>1:10,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>
<u>ZZ</u>	-	<u>1:12,000,000</u>	<u>IFR Enroute High/Low</u>	<u>CADRG</u>

* See note in paragraph 5

5.1.5 Data series and zone codes

The <data series and zone> codes are three digit alphanumeric codes derived from the two digit Data Series Code (see 5.1.4) and the one-digit Zone Code (see 5.1.3). The following are examples of valid codes currently defined for RPF data. Other valid <data series and zone> codes (for city graphics, etc.) can be created by combining data series codes with the ARC zonecodes in the same fashion.

NORTHERN HEMISPHERE

Data series	ZONE								
	1	2	3	4	5	6	7	8	9
GN	GN1	GN2	GN3	GN4	N/A	N/A	GN7	N/A	GN9
JN	JN1	JN2	JN3	JN4	JN5	JN6	JN7	JN8	JN9
ON	ON1	ON2	ON3	ON4	ON5	ON6	ON7	ON8	ON9
TP	TP1	TP2	TP3	TP4	TP5	TP6	TP7	TP8	TP9
LF	LF1	LF2	LF3	LF4	LF5	LF6	LF7	LF8	LF9
JG	JG1	JG2	JG3	JG4	JG5	JG6	JG7	JG8	JG9
JA	JA1	JA2	JA3	JA4	JA5	JA6	JA7	JA8	JA9
JR	JR1	JR2	JR3	JR4	JR5	JR6	JR7	JR8	JR9
TF	TF1	TF2	TF3	TF4	TF5	TF6	TF7	TF8	TF9
AT	AT1	AT2	AT3	AT4	AT5	AT6	AT7	AT8	AT9
TC	TC1	TC2	TC3	TC4	TC5	TC6	TC7	TC8	TC9
TL	TL1	TL2	TL3	TL4	TL5	TL6	TL7	TL8	TL9
TT	TT1	TT2	TT3	TT4	TT5	TT6	TT7	TT8	TT9
TQ	TQ1	TQ2	TQ3	TQ4	TQ5	TQ6	TQ7	TQ8	TQ9
CG	CG1	CG2	CG3	CG4	CG5	CG6	CG7	CG8	CG9
CM	CM1	CM2	CM3	CM4	CM5	CM6	CM7	CM8	CM9
A1	A11	A12	A13	A14	A15	A16	A17	A18	A19
A2	A21	A22	A23	A24	A25	A26	A27	A28	A29
A3	A31	A32	A33	A34	A35	A36	A37	A38	A39
MI	MI1	MI2	MI3	MI4	MI5	MI6	MI7	MI8	MI9

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VN	VN1	VN2	VN3	VN4	VN5	VN6	VN7	VN8	VN9
I1	I11	I12	I13	I14	I15	I16	I17	I18	I19
I2	I21	I22	I23	I24	I25	I26	I27	I28	I29
I3	I31	I32	I33	I34	I35	I36	I37	I38	I39
I4	I41	I42	I43	I44	I45	I46	I47	I48	I49
IV	IV1	IV2	IV3	IV4	IV5	IV6	IV7	IV8	IV9

SOUTHERN HEMISPHERE

Data series	ZONE								
	A	B	C	D	E	F	G	H	J
GN	GNA	GNB	GNC	GND	N/A	N/A	GNG	N/A	GNJ
JN	JNA	JNB	JNC	JND	JNE	JNF	JNG	JNH	JNJ
ON	ONA	ONB	ONC	OND	ONE	ONF	ONG	ONH	ONJ
TP	TPA	TPB	TPC	TPD	TPE	TPF	TPG	TPH	TPJ
LF	LFA	LFB	LFC	LFD	LFE	LFF	LFG	LFH	LFJ
JG	JGA	JGB	JGC	JGD	JGE	JGF	JGG	JGH	JGJ
JA	JAA	JAB	JAC	JAD	JAE	JAF	JAG	JAH	JAJ
JR	JRA	JRB	JRC	JRD	JRE	JRF	JRG	JRH	JRJ
TF	TFA	TFB	TFC	TFD	TFE	TFF	TFG	TFH	TFJ
AT	ATA	ATB	ATC	ATD	ATE	ATF	ATG	ATH	ATJ
TC	TCA	TCB	TCC	TCD	TCE	TCF	TCG	TCH	TCJ
TL	TLA	TLB	TLC	TLD	TLE	TLF	TLG	TLH	TLJ
TT	TTA	TTB	TTC	TTD	TTE	TTF	TTG	TTH	TTJ
TQ	TQA	TQB	TQC	TQD	TQE	TQF	TQG	TQH	TQJ
CG	CGA	CGB	CGC	CGD	CGE	CGF	CGG	CGH	CGJ
CM	CMA	CMB	CMC	CMD	CME	CMF	CMG	CMH	CMJ
A1	A1A	A1B	A1C	A1D	A1E	A1F	A1G	A1H	A1J
A2	A2A	A2B	A2C	A2D	A2E	A2F	A2G	A2H	A2J
A3	A3A	A3B	A3C	A3D	A3E	A3F	A3G	A3H	A3J
MI	MIA	MIB	MIC	MID	MIE	MIF	MIG	MIH	MIJ
VN	VNA	VNB	VNC	VND	VNE	VNF	VNG	VNH	VNJ
I1	I1A	I1B	I1C	I1D	I1E	I1F	I1G	I1H	I1J
I2	I2A	I2B	I2C	I2D	I2E	I2F	I2G	I2H	I2J
I3	I3A	I3B	I3C	I3D	I3E	I3F	I3G	I3H	I3J
I4	I4A	I4B	I4C	I4D	I4E	I4F	I4G	I4H	I4J
IV	IVA	IVB	IVC	IVD	IVE	IVF	IVG	IVH	IVJ

The following are the valid <data series and zone> codes currently defined for RPF data that are zoned in the DTED zone format.

Data Series	DTED Zone									
	1	2	3	4	5	6	7	8	9	A
D1*	D11	D12	D13	D14	D15	D16	D17	D18	D19	D1A
D2*	D21	D22	D23	D24	D25	D26	D27	D28	D29	D2A

* See note in paragraph 5

In addition, the following are valid <data series and zone> codes for the specified frame file types:

File Type	<data Series and zone> code
Overview	OVR
Images	
Legend Files	LGD

5.1.6 Product data types

The following are the valid <product data type>s currently registered for RPF products.

Product Data Type	Product Name
ADRG	ARC Digitized Raster Graphics
ADRI	ARC Digital Raster Imagery
CADRG	Compressed ARC Digitized Raster Graphics
CIB	Controlled Image Base
CDTED *	Compressed Digital Terrain Elevation Data
DTED *	Digital Terrain Elevation Data

* See note in paragraph 5

5.1.7 Security country/international codes

The following are the registered <Security Country/International Codes> for RPF products.

Code	Description
AB	Abu Musa (Disputed Island In Persian Gulf
AF	Afghanistan
AL	Albania
AG	Algeria
AQ	American Samoa (US)
ZQ	Andaman Islands (IN)
AN	Andorra
AO	Angola
AV	Anquilla (Leeward Islands) (UK)
YR	Annobon (Pagulu) (EK)
AY	Antarctica
AC	Antigua-Barbuda
AR	Argentina
AM	Armenia

AA	Aruba (NL)
AT	Ashmore & Cartier Islands (AS)
AS	Australia
AU	Austria
AJ	Azerbaijan
AZ	Azores (PO)
BF	Bahama Islands
BA	Bahrain
FQ	Baker Islands (SP)
BG	Bangladesh
BB	Barbados
BS	Bassas Da India (FR)
BO	Belarus
BK	Belgium
BH	Belize
BK	Benin
BD	Bermuda
BT	Bhutan
BL	Bolivia
BK	Bosnia-Herzegovina
BC	Botswana
BV	Bovet Island (NO)
BR	Brazil
IO	British Indian Ocean Territory (Chagos Archipelago)
VI	British Virgin Islands (Leeward Islands)
BX	Brunei
BU	Bulgaria
UV	Burkina Faso (Upper Volta)
BM	Myanmar (Burma)
BY	Burundi
VK	Cabinda (AO)
CB	Kampuchea (Cambodia)
CM	Cameroon
CA	Canada
ZZ	Canary Islands (SP)
CV	Cape Verde Islands
ZL	Caroline Islands
CJ	Cayman Islands
CT	Central African Republic
CD	Chad
CI	Chile
CH	China, People's Republic of
KT	Christmas Island (Indian Ocean) (AS)
IP	Clipperton Island (FR)
CK	Cocos Islands (Keeling) (AS)
CO	Columbia
CN	Comoro Islands (AS)
CF	Congo
CW	Cook Islands (NZ)

CR	Coral Sea Islands (AS)
CS	Costa Rica
IV	Cote d'Ivoire (Ivory Coast)
VJ	Crete (Kriti) (GR)
HR	Croatia
CU	Cuba
CY	Cyprus
EZ	Czech Republic
DA	Denmark
YL	Diego Garcia
DJ	Djibouti
DO	Dominica
DR	Dominican Republic
XZ	Easter Island (Isla De Pascua) (CI)
EC	Equador
EG	Egypt
ES	El Salvador
YU	Elobey, Islas De
EK	Equatorial Guinea
ER	Eritrea
EN	Estonia
RT	Ethiopia
EU	Europa Island (FR)
FO	Farroe Islands (DE)
FK	Falkland Islands (UK) (Malvinas)
FJ	Fiji Islands
FI	Finland
FR	France
FG	French Guiana
FP	French Polynesia
FS	French Southern & Antarctic Lands
GB	Gabon
GA	Gambia
GZ	Gaza Strip (Is)
GG	Georgia
GM	Germany
QH	Ghana
GI	Gibraltar (UK)
GO	Glorioso Island (Ma)
GR	Greece
GL	Greenland
GJ	Grenada
GP	Guadeloupe (Leeward Islands)
GQ	Guam
GT	Guatemala
GK	Guernsey (UK)
GV	Guinea
PU	Guinea-Bissau
GY	Guyana
HA	Haiti

HM	Heard Island & McDonald Is (AS)
HO	Honduras
HK	Hong Kong (UK)
HQ	Howland Island (US)
HU	Hungary
IC	Iceland
IN	India
ID	Indonesia
IR	Iran
IZ	Iraq
EI	Ireland
IS	Israel
IT	Italy
JM	Jamaica
JN	Jan Mayen Is (NO)
JA	Japan
DQ	Jarvis Island (US)
JE	Jersey (UK)
JQ	Johnston Atoll (US)
JO	Jordan
JU	Juan De Nova Islands (FR)
YV	Juan Fernandez, Archipelago (CI)
KZ	Kazakhstan
KE	Kenya
KQ	Kingman Reef (US)
KN	Korea, North
KS	Korea, South
KU	Kuwait
KG	Kirghizia
LD	Lakshadweep Islands (IN)
LA	Laos
LG	Latvia
LE	Lebanon
LT	Lesotho
LI	Liberia
LY	Libya
LS	Liechtenstein
LH	Lithuania
LU	Luxembourg
MC	Macao (PO)
MK	Macedonia
ZX	Macaïs Nguema Biyogo
MA	Madagascar
VD	Madeira Islands (PO)
MI	Malawi
MY	Malaysia
MV	Maldives
ML	Mali
MT	Malta
IM	Isle of Man (UK)

RM	Republic of the Marshall Islands
MB	Martinique (FR)
MR	Mauritania
MP	Mauritius
MP	Mayotte (FR)
MX	Mexico
FM	Federated States of Micronesia
MQ	Midway Island (US)
MD	Moldova
MN	Monaco
MG	Mongolia
MW	Montenegro
MH	Montserrat
MO	Morocco
MZ	Mozambique
NA	Namibia
NR	Nauru
BQ	Navassa Island (US)
NP	Nepal
NL	Netherlands
NT	Netherlands Antilles
NC	New Caledonia (FR)
NZ	New Zealand
NU	Nicaragua
YZ	Nicobar Islands (IN)
NG	Niger
NI	Nigeria
NE	Niue (NZ)
NF	Norfolk Islands (AS)
WN	Northern Ireland
CQ	Northern Mariana Islands (US)
NO	Norway
XO	Okinawa (JA)
MU	Oman
PK	Pakistan
PS	Palau, Republic of (US)
LQ	Palmyra Atoll (US)
PM	Panama
PP	Papua New Guinea
PF	Paracel Islands (CH)
PA	Paraguay
PB	Pemba Island (TZ)
PE	Peru
RP	Philippines
PC	Pitcairn Island (UK)
PL	Poland
PO	Portugal
RQ	Puerto Rico (US)
QA	Qatar
RE	Reunion (FR)

RO	Romania
RS	Russia
RW	Rwanda
SH	Saint Helena, Ascension Island (UK)
ST	Saint Lucia
VC	Saint Vincent and the Grenadines
WC	Sala Y Gomez (CI)
YX	San Ambrosia Island (CI)
YK	San Felix Island (CI)
SM	San Marino
TP	Sao Tome and Principe
SD	Sardinia (IT)
SA	Saudi Arabia
SG	Senegal
SR	Serbia
SE	Seychelles
SL	Sierra Leone
SN	Singapore
LO	Slovakia
SI	Slovenia
SJ	Socotra (YM)
SP	Solomon Islands
SO	Somalia
SF	Republic of South Africa
SX	South Georgia & South Sandwich Is (UK).
WG	South Orkney Islands (UK)
WH	South Shetland Islands (UK)
SP	Spain
PG	Spratly Islands (CH, RP, MY, VM)
CE	Sri Lanka
SC	St. Christopher-Nevis
SB	St. Pierre Miqurlon (CA)
SU	Sudan
NS	Surinam
SV	Svalbard (NO)
WZ	Swaziland
SW	Sweden
SZ	Switzerland
SY	Syria
TW	Taiwan and Penghu
TI	Tajikistan
TZ	Tanzania
TH	Thailand
TO	Togo
TL	Tokelau (NZ)
TN	Tonga Islands
TD	Trinidad and Tobago
TE	Tromelin Island (FR)
TS	Tunisia
TU	Turkey

TX	Turkmenistan
TK	Turks and Caicos Islands (UK)
TV	Tuvalu
UG	Uganda
UP	Ukraine
TC	United Arab Emirates
UK	United Kingdom
US	United States
IQ	US miscellaneous Pacific Islands
UY	Uruguay
UZ	Uzbekistan
NH	Vanuatu (Former New Hebrides)
VT	Vatican City
VE	Venezuela
VM	Vietnam
VQ	Virgin Islands (US, UK)
WQ	Wake Island (US)
WF	Wallis and Futuna Islands (FR)
YA	Walvis Bay (SF)
WE	West Bank
WI	Western Sahara (MO)
WS	Western Samoa
YM	Yemen
CG	Zaire
ZA	Zambia
ZY	Zanzibar (TZ)
ZI	Zimbabwe

5.1.8 Security classifications

The following <security classifications> are as defined in DIAM 65-19.

Code	Classification
T	Top Secret
S	Secret
C	Confidential
R	Restricted
U	Unclassified

5.1.9 Security release markings

The following <security release markings> are as defined in DIAM 65-19.

Code	Release Marking
AT	ATOMAL (NATO designation to identify restricted or formerly restricted data)
BX	Background use only

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PI	Caution - Proprietary information involved (PROPIN)
CC	Continued Control
PX	Copyright
CS	COSMIC (Caveat applied to NATO Top Secret)
CN	Critical Nuclear Weapon Design Information/DoD directive 5210.2 applies (CNWDI)
CR	Cryptographic (CRYPTO)
OR	Dissemination and Extraction Of information controlled by originator (ORCON)
DS	Distribution Limited-Destroy when no longer needed (DIST LIM)
TX	Encrypted for Transmission Only
FO	For Official Use Only (FOUO)
RF	Formerly restricted data (FRD)
IC	Intelligence Components Only
LA	Limited
LU	Limited official use
UB	NFIB (National Foreign Intelligence Board) departments only (NFIB ONLY)
DA	No Dissemination Abroad
NT	Noncompartmented
NC	Not releasable to contractors/consultants
FN	Not releasable to foreign national (DoD)
NF	Not releasable to foreign nationals (NOFORN)
NS	NSC Participating Agencies Only
IN	Personal Data - Privacy Act
EZ	Releasable to Republic of Vietnam
RD	Restricted Data (RD)
SA	SAO
SL	SAO Handling Caveat #1 (SAO-1)
HA	SAO Handling Caveat #2 (SAO-2)
HB	SAO Handling Caveat #3 (SAO-3)
SK	SAO Special Intelligence Handling Caveat #2 (SAO-SI-2)
HC	SAO Special Intelligence Handling Caveat #3 (SAO-SI-3)
HD	SAO Special Intelligence Handling Caveat #4 (SAO-SI-4)
SH	Single Integrated Operational Plan (SIOP)
SE	Single Integrated Operational Plan/Extremely Sensitive Information (SIOP/ESI)
SC	Special Control
SU	Special Handling Required/Not Releasable to foreign Nationals
SI	Special Intelligence (SI)
SN	Special Intelligence Handling Caveat #1 (SI-1)
EP	Authorized for release to Australia (REL AUSTRALIA)
EN	Authorized for release to Canada (REL CANADA)

ER	This information has been authorized for release to CENTO (REL CENTO)
BZ	Authorized for release to Chile (REL CHILE)
EK	Authorized for release to Denmark (REL DENMARK)
EQ	Authorized for release to Federal Republic of Germany (FEDERAL REPUBLIC OF GERMANY)
FR	Authorized for release to France (REL FRANCE)
IG	Authorized for release to Greece (REL GREECE)
FV	Authorized for release to Israel (REL ISRAEL)
FY	Authorized for release to Italy (REL ITALY)
PM	Authorized for release to Japan (REL JAPAN)
MR	Authorized for release to Jordan (REL JORDAN)
ET	Authorized for release to NATO (REL NATO)
FP	Authorized for release to NATO Forces (REL NATO FORCES)
FC	Authorized for release to New Zealand (REL NEW ZEALAND)
EF	Authorized for release to Norway (REL NORWAY)
FX	Authorized for release to Taiwan (REL TAIWAN)
EO	Authorized for release to Republic of Korea (REL REPUBLIC OF KOREA)
ES	This Information has been Authorized for release to SEATO (REL SEATO)
IS	Authorized for release to Denmark
FW	Authorized for release to Spain (REL SPAIN)
ED	Authorized for release to Sweden (REL SWEDEN)
PF	Authorized for release to Thailand (REL THAILAND)
EA	Authorized for release to Turkey (REL TURKEY)
WN	Authorized for release to United Kingdom (REL UNITED KINGDOM)
WI	Warning Notice - Intelligence sources or Methods Involved (WNINTEL)

5.2 Table of contents data

This section defines codes that are used primarily in RPF [table of contents files].

5.2.1 Producer codes

The following are the valid <producer code>s currently registered for RPF products.

ID	Producer code	Producer
1	AFACC	Air Force Air Combat Command
2	AFESC	Air Force Electronic Systems Center
3	NGA	National Geospatial-Intelligence Agency
		Primary

4	NGA1	National Geospatial-Intelligence Agency Alternate Site 1
5	NGA2	National Geospatial-Intelligence Agency Alternate Site 2
6	NGA3	National Geospatial-Intelligence Agency Alternate Site 3
7	SOCAF	Air Force Special Operations Command
8	SOCOM	United States Special Operations Command
9	PACAF	Pacific Air Forces
A	USAFE	United States Air Force, Europe
B	Non-DoD (NonDD)	US producer outside the Department of Defense
C	Non-US (NonUS)	Non-US producer
D	NGA DCHUM (DCHUM)	NGA produced Digital CHUM file
E	Non-NGA DCHUM (DCHMD)	DoD producer of Digital CHUM file other than NGA
F	Non-US DCHUM (DCHMF)	Non-US (foreign) producer of Digital CHUM files
G	Non-DoD DCHUM (DCHMG)	US producer of Digital CHUM files outside DoD
H	IMG2RPF	Non-specified, Imagery formatted to RPF
I-Z		Reserved for future standardization

5.2.2 Compression ratio code

The compression ratio code is an ASCII field within the [table of contents] file of RPF products. Examples of text that may be found in this field are given below.

Code	Description
55:1	Digital product compressed approximately 55:1 with respect to the uncompressed data
12:1	Digital product compressed approximately 12:1 with respect to the uncompressed data
48:1	Digital product compressed approximately 48:1 with respect to the uncompressed data
UNC	Uncompressed RPF product
VAR	Variable compression ratio

5.3 Frame file data

This section defines codes that are used in the RPF [frame file].

5.3.1 Compression section

RPF data can be in a compressed or uncompressed format. This compression section defines valid codes for compression scheme parameters.

5.3.1.1 Compression algorithm ID

The following are the valid <compression algorithm id>s currently registered for RPF products.

ID	Compression Algorithm
1	VQ
2	JPEG Lossless *
3-65535	Reserved for future standardization

* See note in paragraph 5

5.3.1.2 Compression lookup table ID

The following are the valid <compression lookup table id>s currently registered for RPF products.

ID	Compression Lookup Table
1	1x4 Row 0 VQ
2	1x4 Row 1 VQ
3	1x4 Row 2 VQ
4	1x4 Row 3 VQ
5	4x4 VQ
6	2x2 VQ
7	Huffman Code *
8	Length of Huffman Code *
9	Huffman Value *
10-65535	Reserved for future standardization

* See note in paragraph 5

5.3.1.3 Compression parameter ID

The <compression parameter id> is a code which identifies parameters which may be used in the [compression section] of an RPF [frame file]. Not all compression schemes require <compression parameter id>s.

ID	Compression Parameter
1	JPEG data stream for Huffman table structure *
2-65535	Reserved for future standardization

* See note in paragraph 5

5.3.1.4 Compression parameter value

The <compression parameter value> can be either an explicit value to be used in a compression scheme or an index to a table used in the compression of RPF [frame file]s. Not all compression schemes require <compression parameter value>s. Currently no <compression parameter value>s are registered.

5.3.2 Attribute section

The attribute section in RPF products defines ancillary or qualifying information about the data within the [frame file]s. The following tables list currently registered attributes and parameters for RPF products.

Attr ID	Attribute Description	Number of Parameters
1	Currency Date	1
2	Production Date	1
3	Significant Date	1
4	Map/Chart Source	4
5	Projection System	5
6	Vertical Datum	1
7	Horizontal Datum	1
8	Vertical Absolute Accuracy	2
9	Horizontal Absolute Accuracy	2
10	Vertical Relative Accuracy	2
11	Horizontal Relative Accuracy	2
12	Ellipsoid	1
13	Sounding Datum	1
14	Navigation System	1
15	Grid	1
16	Easterly Annual Magnetic Change	2
17	Westerly Annual Magnetic Change	2
18	Grid North-Magnetic North Angle	2
19	Grid Convergence Angle	2
20	Highest Known Elevation	4
21	Multiple Legend	1
22	Image Source	2
23*	Data Level	1
24	Chart Update Information	7
25	Contour Interval	2

* See note in paragraph 5

5.3.2.1 Attribute and parameter descriptions

The following are the valid parameters associated with attributes listed above and currently registered for RPF products.

Currency Date (ID ::= 1)

Parameter ID	1	Description Date of most recent revision to the RPF product in the [frame file], in the form YYYYMMDD
Parameter Name	Currency Date	
Data Type	ascii:8	

Production Date (ID ::= 2)

Parameter ID	1	Description Date that the source data was transformed to RPF format, in the form YYYYMMDD
Parameter Name	Production Date	
Data Type	ascii:8	

Significant Date (ID ::= 3)

Parameter ID	1	Description Date that most accurately describes the basic date of the source product, in the form YYYYMMDD. It can be the completion date, compilation date, collection date, revision date, or other date depending on the product and circumstances.
Parameter Name	Significant Date	
Data Type	ascii:8	

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Map/Chart Source (ID ::= 4)

Parameter ID	1	Description
Parameter Name	Data series designation	A short title for the identification of a group of products usually having the same scale and/or cartographic specification (e.g., JOG 1501A, JOG 1501G, or JOG 1501C)
Data Type	ascii:10	
Parameter ID	2	Description
Parameter Name	Map Designation	The designation, within the data series, of the hardcopy source (e.g., if the hardcopy source is ONC G18, then the map designation is "G18").
Data Type	ascii:8	
Parameter ID	3	Description
Parameter Name	Old Horizontal Datum Code	Original horizontal datum of the hardcopy product. A list of horizontal datum codes is given in 5.3.2.2
Data Type	ascii:4	
Parameter ID	4	Description
Parameter Name	Edition Identifier	Edition number of the source graphic, which uniquely identifies a product within a series and item number.
Data Type	ascii:7	

Projection System (ID ::= 5)

Parameter ID	1	Description
Parameter Name	Projection Code	Projection of the source hardcopy graphic, as listed in 5.3.2.3†
Data Type	ascii:2	

Parameter ID	2	Description
Parameter Name	Projection Parameter A	The value of the first projection parameter. A definition of the first projection parameter is given in 5.3.2.3
Data Type	real:4	
Parameter ID	3	Description
Parameter Name	Projection Parameter B	The value of the second projection parameter. A definition of the second projection parameter is given in 5.3.2.3
Data Type	real:4	
Parameter ID	4	Description
Parameter Name	Projection Parameter C	The value of the third projection parameter. A definition of the third projection parameter is given in 5.3.2.3
Data Type	real:4	
Parameter ID	5	Description
Parameter Name	Projection Parameter D	The value of the fourth projection parameter. A definition of the fourth projection parameter is given in 5.3.2.3
Data Type	real:4	

† A full description of the projection systems and their parameters can be found in DMA TM 8358.1.

Vertical Datum (ID ::= 6)

Parameter ID	1	Description
Parameter Name	Vertical Datum Code	Vertical datum of this RPF [frame file] or areal extent, as listed in 5.3.2.2
Data Type	ascii:4	

Horizontal Datum (ID ::= 7)

Parameter ID	1	Description
Parameter Name	Horizontal Datum Code	Horizontal datum of this RPF [frame file] or areal extent, as listed in 5.3.2.2
Data Type	ascii:4	

Vertical Absolute Accuracy (ID ::= 8)

Parameter ID	1	Description
Parameter Name	Vertical Absolute Accuracy	Vertical absolute accuracy of this RPF [frame file] or areal extent.
Data Type	uint:4	
Parameter ID	2	Description
Parameter Name	Accuracy Units of Measure	Units of measure for the vertical absolute accuracy, as listed in 5.3.2.6
Data Type	uint:2	

Horizontal Absolute Accuracy (ID ::= 9)

Parameter ID	1	Description
Parameter Name	Horizontal Absolute Accuracy	Horizontal absolute accuracy of this RPF [frame file] or areal extent.
Data Type	uint:4	
Parameter ID	2	Description
Parameter Name	Accuracy Units of Measure	Units of measure for the horizontal absolute accuracy, as listed in 5.3.2.6
Data Type	uint:2	

Vertical Relative Accuracy (ID ::= 10)

Parameter ID	1	Description
Parameter Name	Vertical Relative Accuracy	Vertical relative accuracy of this RPF [frame file] or areal extent.
Data Type	uint:4	

Parameter ID	2	Description
Parameter Name	Accuracy Units of Measure	Units of measure for the vertical relative accuracy, as listed in 5.3.2.6
Data Type	uint:2	

Horizontal Relative Accuracy (ID ::= 11)

Parameter ID	1	Description
Parameter Name	Horizontal Relative Accuracy	Horizontal relative accuracy of this RPF [frame file] or areal extent.
Data Type	uint:4	
Parameter ID	2	Description
Parameter Name	Accuracy Units of Measure	Units of measure for the horizontal relative accuracy, as listed in 5.3.2.6
Data Type	uint:2	

Ellipsoid (ID ::= 12)

Parameter ID	1	Description
Parameter Name	Ellipsoid Code	Ellipsoid used in this RPF [frame file] or areal extent, as listed in 5.3.2.5
Data Type	ascii:3	

Sounding Datum (ID ::= 13)

Parameter ID	1	Description
Parameter Name	Sounding Datum Code	Sounding datum used in this RPF [frame file] or areal extent, as listed in 5.3.2.2
Data Type	ascii:4	

Navigation System.3.2.1; (ID ::= 14)

Parameter ID	1	Description
Parameter Name	Navigation System Code	Navigation system used in this RPF [frame file] or areal extent, as listed in 5.3.2.4
Data Type	uint:2	

Grid (ID ::= 15)

Parameter ID	1	Description
Parameter Name	Grid Code	Grid code for this RPF [frame file] or areal extent, as listed in 5.3.2.7
Data Type	ascii:2	

Easterly Annual Magnetic Change (ID ::= 16)

Parameter ID	1	Description
Parameter Name	Easterly Annual Magnetic Change	Annual magnetic change in the easterly direction for this RPF [frame file] or areal extent.
Data Type	real:4	
Parameter ID	2	Description
Parameter Name	Units of Magnetic Change	Units for the magnetic change, as listed in 5.3.2.6
Data Type	uint:2	

Westerly Annual Magnetic Change (ID ::= 17)

Parameter ID	1	Description
Parameter Name	Westerly Annual Magnetic Change	Annual magnetic change in the westerly direction for this RPF [frame file] or areal extent.
Data Type	real:4	
Parameter ID	2	Description
Parameter Name	Units of Magnetic Change	Units for the magnetic change, as listed in 5.3.2.6
Data Type	uint:2	

Grid North-Magnetic North Angle (ID ::= 18)

Parameter ID	1	Description
Parameter Name	Grid North-Magnetic North (G-M) Angle	Angle between north/south grid lines and magnetic north in this [frame file] or areal extent.
Data Type	real:4	
Parameter ID	2	Description
Parameter Name	Units of Angle	Units of measure for the grid north-magnetic north angle, as listed in 5.3.2.6
Data Type	uint:2	

Grid Convergence Angle (ID ::= 19)

Parameter ID	1	Description
Parameter Name	Grid Convergence Angle	Angle between grid north and true north in this [frame file] or areal extent.
Data Type	real:4	
Parameter ID	2	Description
Parameter Name	Units of Angle	Units of measure for the grid convergence angle, as listed in 5.3.2.6
Data Type	uint:2	

Highest Known Elevation (ID ::= 20)

Parameter ID	1	Description
Parameter Name	Highest Known Elevation	Highest known elevation for the RPF frame or areal extent.
Data Type	real:8	
Parameter ID	2	Description
Parameter Name	Units of elevation	Units of measure for the highest known elevation, as listed in 5.3.2.6
Data Type	uint:2	

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Parameter ID	3	Description
Parameter Name	Latitude of elevation	Latitude in decimal degrees of the highest known elevation point within this RPF [frame file] or areal extent.
Data Type	real:8	
Parameter ID	4	Description
Parameter Name	Longitude of elevation	Longitude in decimal degrees of the highest known elevation point within this RPF [frame file] or areal extent.
Data Type	real:8	

Multiple Legend (ID ::= 21)

Parameter ID	1	Description
Parameter Name	Legend File Name	Name of the legend file that applies to this areal extent
Data Type	ascii:12	

Data Source (ID ::= 22)

Parameter ID	1	Description
Parameter Name	Data Source	Source of the data from which this RPF data was derived. Examples of this field as it would be included in CIB data include "SPOT", "Landsat7" or "Landsat4". For the CDTED product, examples of this attribute include "imagery", "carto". *
Data Type	ascii:12	
Parameter ID	2	Description
Parameter Name	GSD	Ground Sample or post Distance (GSD) of the RPF data
Data Type	uint:4	

Data Level (ID ::= 23) *

Parameter ID	1	Description
Parameter Name	Data Level	The level of the source for this data. For the CDTED product, this attribute would be used to distinguish between DTED/CDTED level 1 and DTED/CDTED level 2.
Data Type	uint:2	

* See note in paragraph 5

Chart Update Information (ID : := 24)

Parameter ID	1	Description
Parameter Name	Number of Updates	The total number of updates associated with this [frame file]
Data Type	uint:2	
Parameter ID	2	Description
Parameter Name	Update Number	The sequence number of this update
Data Type	Uint:2	
Parameter ID	3	Description
Parameter Name	Update Date	The date associated with the update. This date is the date found in the ECHUM information, in the form YYYYMMDD
Data Type	ascii:8	
Parameter ID	4	Description
Parameter Name	Number of Subframes Impacted	The number of subframes impacted by this update
Data Type	uint: 2	

Parameter ID	5	Description
Parameter Name	List of Subframes	An array of integers representing the list of subframes affected by the change. Each entry in the array is 2 bytes and the number of entries is specified by the "number of subframes", indicated by parameter 4.
Data Type	(uint:2) x (value of parameter 4)	
Parameter ID	6	Description
Parameter Name	Number of Characters in Description	The number of characters in the description of the change
Data Type	uint:2	
Parameter ID	7	Description
Parameter Name	Change Description	A description of the change, as described in the ECHUM information. The length of this description is specified by the "Number of Characters in Description" indicated by parameter 6.
Data Type	ascii: var	

Contour Interval (ID ::= 25)

Parameter ID	1	Description
Parameter Name	Contour Interval	Contour interval of the map or chart
Data Type	uint:2	
Parameter ID	2	Description
Parameter Name	Unit of Measurement	Unit of measurement for the contour interval as specified in Section 5.3.2.6
Data Type	uint:2	

5.3.2.2 Datum codes

The following are the valid datum codes currently registered for RPF products, and as taken from DMA Tech Manual 8358.1.

Horizontal datum codes

Code	Name (Region)
ADIM	Adindan (Mean value: Ethiopia and Sudan)
ADIA	Adindan (Ethiopia)
ADIB	Adindan (Sudan)
ADIC	Adindan (Mali)
ADID	Adindan (Senegal)
ADIF	Adindan (Cameroon)
ADIE	Adindan (Burkina Faso)
AFG	Afgooye (Somalia)
AIA	Antigua Island Astro 1943 Antigua (Leeward Islands)
AINA	Ain el Abd 1970 (Bahrain Island)
AINB	Ain el Abd 1970 (Saudi Arabia)
ANO	Anna 1 Astro (Cocos Islands)
ARFM	Arc 1950 (Mean value: Botswana, Lesotho, Malawi, Swaziland, Zaire, Zambia, and Zimbabwe)
ARFA	Arc 1950 (Botswana)
ARFB	Arc 1950 (Lesotho)
ARFC	Arc 1950 (Malawi)
ARFD	Arc 1950 (Swaziland)
ARFE	Arc 1950 (Zaire)
ARFF	Arc 1950 (Zambia)
ARFG	Arc 1950 (Zimbabwe)
ARFH	Arc 1950 (Burundi)
ARSM	Arc 1960 (Mean value: Kenya, Tanzania)
ARSA	Arc 1960 (Kenya)
ARSB	Arc 1960 (Tanzania)
ASC	Ascension Island 1958 (Ascension Island)
ATF	Astro Beacon "E" (Iwo Jima Island)
TRN	Astro Tern Is. 1961 (Tern Island, Hawaii)
SHB	Astro Dos 71/4 (St. Helena Island)
ASQ	Astro Station 1952 (Marcus Island)
AUA	Australian Geod. 1966 (Australia and Tasmania Is.)
AUG	Australian Geod. 1984 (Australia and Tasmania Is.)
PHA	Ayabelle Lighthouse (Djibouti)
IBE	Bellevue (IGN (Efate and Erromango Islands)
BER	Bermuda 1957 (Bermuda Islands)
BID	Bissau (Guinea-Bissau)
BOO	Bogota Observatory (Colombia)
BUR	Bukit Rimpah (Bangka and Belitung Islands, Indonesia)
CAZ	Camp Area Astro (Camp McMurdo Area, Antarctica)
CAI	Campo Inchauspe (Argentina)
CAO	Canton Astro 1966 (Phoenix Islands)

CAP	Cape (South Africa)
CAC	Cape Canaveral (Mean value: Florida and Bahama Islands)
CGE	Carthage (Tunisia)
CHI	Chatham 1971 (Chatham Island, New Zealand)
CHU	Chua Astro (Paraguay)
COA	Corrego Alegre (Brazil)
DAL	Dabola (Guinea)
BAT	Djakarta (Batavia) Sumatra Island, Indonesia)
GIZ	DOS 1968 0230 (Gizo Island, New Georgia Islands)
EAS	Easter Island 1967 (Easter Island)
EURM	European 1950 (Mean Value: Austria, Belgium, Denmark, Finland, France, Federal Republic of Germany, Gibraltar, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden and Switzerland)
EURA	European 1950 (Western Europe: Austria, Denmark, France, Federal Republic of Germany, Netherlands, and Switzerland)
EURB	European 1950 (Greece)
EURC	European 1950 (Norway and Finland)
EURD	European 1950 (Portugal and Spain)
EURE	European 1950 (Cyprus)
EURF	European 1950 (Egypt)
EURH	European 1950 (Iran)
EURI	European 1950 (Sardinia)
EURJ	European 1950 (Sicily)
EURK	European 1950 (England, Channel Islands, Ireland, Northern Ireland, Scotland, Shetland Islands, and Wales)
EURL	European 1950 (Malta)
EURS	European 1950 (Mean Value: Iraq, Israel, Jordan, Lebanon, Kuwait, Saudi Arabia, Syria)
EUS	European 1979 (Mean value: Austria, Finland, Netherlands, Norway, Spain, Sweden, and Switzerland)
FOT	Fort Thomas 1955 (Nevis, Saint Kitts, Leeward Islands)
GAA	GAN Datum (Addu Atoll, Republic of Maldives)
GEO	Geodetic Datum 1949 (New Zealand)
GUA	Guam 1963 (Guam Island)
GSE	Genung Segara (Kalimantan Island, Indonesia)
DOB	GUX 1 Astro (Guadalcanal Island)
HEN	Herat (North Afghanistan)
HJO	Hjorsey 1955 (Iceland)
HKD	Hong Kong 1963 (Hong Kong)
HTN	Hu-Tzu-Shan (Taiwan)
INFA	Indian 1954 (Thailand and Vietnam)
INHA	Indian 1975 (Thailand)
INDI	Indian (India and Nepal)
INDB	Indian (Bangladesh)

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IRL	Ireland 1965 (Ireland and Northern Ireland)
ISG	ISTS 061 Astro 1968 (South Georgia Islands)
IST	ISTS 073 Astro 1969 (Diego Garcia)
JOH	Johnston Island 1961 (Johnston Island)
KAN	Kandawala (Sri Lanka)
KEG	Kerguelen Island 1949 (Kerguelen Island)
KEA	Kertau 1948 (West Malaysia and Singapore)
KUS	Kusaie Astro 1951 (Caroline Islands)
LCF	L.C. 5 Astro 1961 (Cayman Brac Island)
LEH	Leigon (Ghana)
LIB	Liberia 1964 (Liberia)
LUZA	Luzon (Philippines except Mindanao Island)
LUZB	Luzon (Mindanao Island, Philippines)
MPO	M'Poraloko (Gabon)
MIK	Mahe 1971 (Mahe Island)
MAR	Marco Astro (Salvage Islands)
MAS	Massawa (Eritrea, Ethiopia)
MER	Merchich (Morocco)
MID	Midway Astro 1961 (Midway Island)
MINA	Minna (Cameroon)
MIN	Minna (Nigeria)
ASM	Montserrat Island Astro 1958 (Montserrat, Leeward Islands)
NAHA	Nahrwan (Masirah Island, Oman)
NAHB	Nahrwan (United Arab Emirates)
NAHC	Nahrwan (Saudi Arabia)
NAP	Naparima (BWI Trinidad and Tobago)
NAS	North American 1927 (Mean Value)
NASC	North American 1927 (Mean value: CONUS)
NASA	North American 1927 (Eastern US)
NASB	North American 1927 (Western US)
NASD	North American 1927 (Alaska)
NASQ	North American 1927 (Bahamas, except San Salvador Island)
NASR	North American 1927 (San Salvador Island)
NASE	North American 1927 (Mean value: Canada)
NASF	North American 1927 (Alberta and British Columbia)
NASG	North American 1927 (Newfoundland, New Brunswick, Nova Scotia, and Quebec)
NASH	North American 1927 (Manitoba and Ontario)
NASI	North American 1927 (Northwest Territories and Saskatchewan)
NASJ	North American 1927 (Yukon)
NASO	North American 1927 (Canal Zone)
NASP	North American 1927 (Caribbean, Barbados, Caicos Islands, Cuba, Dominican Republic, Grand Cayman, Jamaica, Leeward Islands, and Turks Islands)
NASN	North American 1927 (Central America - Belize, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua)

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NAST	North American 1927 (Cuba)
NASU	North American 1927 (Hayes, Peninsula, Greenland)
NASL	North American 1927 (Mexico)
NAR	North American 1983 (Mean Value: Alaska, Canada, CONUS, Mexico, and Central America)
FLO	Observatorio 1966 (Corvo and Flores Islands, Azores)
OEG	Old Egyptian (Egypt)
OHAM	Old Hawaiian (Mean value)
OHAA	Old Hawaiian (Hawaii)
OHAB	Old Hawaiian (Kauai)
OHAC	Old Hawaiian (Maui)
OHAD	Old Hawaiian (Oahu)
FAH	Oman (Oman)
OGBM	Ord. Survey G. G. 1936 (Mean Value: England, Isle of Man, Scotland, Shetland, and Wales)
OGBA	Ord. Survey G.B. 1936 (England)
OGBB	Ord. Survey G.G. 1936 (England, Isle of Man, and Wales)
OGBC	Ord. Survey G.B. 1936 (Scotland and Shetland Islands)
OGBD	Ord. Survey G. B. 1936 (Wales)
PLN	Pico de las Nieves (Canary Islands)
PIT	Pitcairn Astro 1967 (Pitcairn Island)
PTB	Point 58 (Mean Value: Burkina Faso and Niger)
PON	Pointe Noire 1948 (Congo)
POS	Porto Santo 1936 (Porto Santo, Madeira Islands)
HIT	Prov. S. Chilean (S. Chile, 53 S.)
PRPM	Prov. S. Amer. 1956 (Mean value: Bolivia, Chile, Colombia, Ecuador, Guyana, Peru and Venezuela)
PRPB	Prov. S. Amer. 1956 (Northern Chile near 19 degrees south)
PRPC	Prov. S. Amer. 1956 (Southern Chile near 43 degrees south)
PRPD	Prov. S. Amer. 1956 (Columbia)
PRPE	Prov. S. Amer. 1956 (Ecuador)
PRPF	Prov. S. Amer. 1956 (Guyana)
PRPG	Prov. S. Amer. 1956 (Peru)
PRPH	Prov. S. Amer. 1956 (Venezuela)
PUR	Puerto Rico (Puerto Rico and Virgin Islands)
QAT	Qatar National (Qatar)
QUO	Qornog (South Greenland)
REU	Reunion (Mascarene Island)
MOD	Rome 1940 (Sardinia Island)
SAE	Santo (DOS) 1965 (Espirito Santo Island)
SAO	Sao Braz (Sao Miguel, Santa Maria Islands, Azores)
SAP	Sapper Hill 1943 (East Falkland Islands)
SCK	Schwarzeck (Namibia)
SGM	Selvagem Grande (Salvage Islands)

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SANM	South American 1969 (Mean value: Argentina, Bolivia, Brazil, Chile, Columbia, Ecuador, Guyana, Paraguay, Peru, Trinidad and Tobago, and Venezuela)
SANA	South American 1969 (Argentina)
SANB	South American 1969 (Bolivia)
SANC	South American 1969 (Brazil)
SAND	South American 1969 (Chile)
SANE	South American 1969 (Columbia)
SANF	South American 1969 (Ecuador excluding Galapagos Islands)
SANG	South American 1969 (Guyana)
SANH	South American 1969 (Paraguay)
SANI	South American 1969 (Peru)
SANJ	South American 1969 (Ecuador including Baltra and Galapagos Islands)
SANK	South American 1969 (Trinidad and Tobago)
SANL	South American 1969 (Venezuela)
SOA	South Asia (Southeast Asia, Singapore)
POS	SE Base (Porte Santo) (Porto Santo & Madeira Islands)
GRA	SW Base (Faial, Graciosa, Pico, Sao Jorge, and Terceira Island, Azores)
TIL	Timbali 1948 (Brunei and East Malaysia - Sarawak and Sabah)
TAN	Tananarive Observatory 1925 (Madagascar)
TOK	Tokyo (Mean Value)
TOYM	Tokyo (Mean value: Japan, Korea, and Okinawa)
TOYA	Tokyo (Japan)
TOYB	Tokyo (Korea)
TOYC	Tokyo (Okinawa)
TDC	Tristan Astro 1968 (Tristan da Cunha)
UND	Undetermined (processed as if WGS 84)
MVS	Viti Levu 1916 (Viti Levu Island, Fiji Islands)
WAK	Wake Island Asto 1952 (Wake Atoll)
ENW	Wake-Eniwetok 1960 (Marshall Islands)
WGC	World Geodetic System 1972
WGE	World Geodetic System 1984
YAC	Yacare (Uruguay)
ZAN	Zanderij (Surinam)

Sounding datum codes

Code	Description
MHW	Mean High Water
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MHHW	Mean Higher High Water
MLW	Mean Low Water
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs

MLLW	Mean Lower Low Water
------	----------------------

Vertical datum codes

Code	Vertical Datum
MSL	Mean Sea Level (All elevations in the data set are referenced to the geoid of the specified datum.)
GEOD	Geodetic (All elevations in the data set are referenced to the ellipsoid of the specified datum.)

5.3.2.3 Projection codes and parameters

The following are the valid projection codes and parameters currently registered for RPF products.

Code Name		Parameters			
		A	B	C	D
AC	Albers Equal Area	Central Meridian	Std. Parallel Nearest to Equator	Std. Parallel Farthest from Equator	Latitude of Origin
AL	Azimuthal Equal Distant	Longitude of Tangency	Latitude of Tangency	---	---
RB	Hotline Oblique Mercator	Longitude of Great Circle	Latitude of Great Circle	Azimuth of great Circle	---
LE	Lambert Conformal Conic	Central Meridian	Std. Parallel Nearest to Equator	Std. Parallel Farthest from Equator	Latitude of Origin
MC	Mercator	Central Meridian	Latitude of True scale	---	---
OC	Oblique Mercator	Longitude of Great Circle	Latitude of Great Circle	Azimuth of Great Circle	---
OD	Orthograph ic	Longitude of Tangency	Latitude of Tangency	---	---

PG	Polar Stereo-graphic	Central Meridian	Latitude of True Scale	Latitude of Origin	Longitude of Origin
PH	Polyconic	Central Meridian	Latitude of Origin	---	---
TC	Transverse Mercator	Central Meridian	Meridian of True North	Central Scale Factor	---
UT	Universal Transverse Mercator	Central Meridian	---	---	---

5.3.2.4 Navigation systems codes

The following are the valid navigation system codes currently registered for RPF products.

Code	Description
0	Unknown
1	Circular Radio Beacon
2	CONSOL
3	DECCA
4	Radio Direction Finding
5	Direction Finding Beacon
6	Distance Finding
7	Long Range Air Navigation System (LORAN)
8	OMEGA
9	Undefined
10	Radar Response Beacon (RACON)
11	Radar
12	Radio
13	Radio Telephone
14	Undefined
15	TV
16	Microwave
17	Non-Directional Radio Beacon (NCB)
18	Non-Directional Beacon/Distance Measuring Equipment (NDB/DME)
19	Radio Range (RNG)
20	VHF Omni Directional Radio Range (VOR)
21	VHF Omni Directional (VOR/DME)
22	VHF Omni Directional (VORTAC)
23	Tactical Air Navigation Equipment (TACAN)
24	Instrument Landing System (ILS)
25	(ILS/DME)
26	Localizer (LOC)
27	Localizer/Distance measuring Equipment (LOC/DME)

28	Simplified Direction Facility
29	Landing Distance Available (LDA)
30	Microwave Landing System (MLS)
31	Fan Marker
32	Bone Marker
33	Radio Telegraph
34	Ground Control Approach (GCA)
35	Radar Antenna
36	Undefined
37	Precision Approach Radar (PAR)
38	Aeronautical Radio
39	Undefined
40	Radio Beacon
41	Rotating Loop Radio Beacon
42	Visual Flight Rules (VFR) Test Signal Maker
43	Undefined
44	Consol Radio Beacon
45	Aeronautical Radio Beacon
46	Radar Station
47	Hifix
48	Hyperfix
999	Other

5.3.2.5 Ellipsoid codes

The following are the valid ellipsoid codes currently registered for RPF products.

Code	Description
AAY	Airy 1830
AUN	Australian National
BES	Bessel 1841
bes	Bessel 1841 (Namibia)
CLK	Clark 1866
CLJ	Clark 1880
EVE	Everest
FM	Fischer 1960
FC	Fischer 1968
RE	Geodetic Reference System 1967
GRS	Geodetic Reference System 1980
HE	Helmert 1906
HO	Hough 1960
INT	International 1924
KRA	Krasovsky
AAM	Modified Airy
EVM	Modified Everest
FA	Modified Fischer 1960 (South Asia)
SA	South American 1969

WGA	World Geodetic System 1960
WGB	World Geodetic System 1966
WGC	World Geodetic System 1972
WGD	World Geodetic System 1984

5.3.2.6 Units of measure codes

The following are the valid units of measure codes currently registered for RPF products.

Code	Description
0	Unknown
1	Meters (Length, Area, Volume)
2	Kilopounds (Weight)
3	Seconds (Of Time)
4	Meters/Second (Speed)
5	Cubic Meters/Second (Flow)
6	Volt (Electrical Potential)
7	Watt (Ten to the Sixth (Electrical Power))
8	Hertz (Frequency)
9	± DDD MM SS.S (Angular)
10	± HH MM SS.S (Time)
11	International Nautical Mile (1852 meters)
12	Knot
13	Nautical Mile/Day
14	Feet
15	Fathom
16	Micrometers (Microns)
17	Mils
18	Seconds of arc
19	Minutes of arc
20	Degrees of arc
999	Other

5.3.2.7 Grid codes

The following are the valid grid codes currently registered for RPF products.

Code	Description
AD	Aden Zone
AF	Afghanistan Gauss-Krueger Grid
AG	Air Defense Grid
AI	Air Support Grid
AJ	Alabama Coordinate System
AK	Alaska Coordinate System
AL	Algeria Zone
AM	Albania Bonne Grid

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AN	Alpha-Numeric (Atlas) Grid
AO	Arbitrary Grid
AP	American Samoa Coordinate System
AQ	Argentina Gauss-Krueger Conformal Grid
AR	Artillery Referencing System
AS	Arizona Coordinate System
AU	Australia Belts
AV	Arkansas Coordinate System
AW	Australian Map Grid
AX	Azores Gauss Conformal Grid
AZ	Azores Zone
BA	Baku 1927 Coordinate System
BB	Bavaria Solder Coordinate System
BC	Belgium-Lambert Grid
BE	Belgium Bonne Grid
BF	Brazil Gauss Conformal GridBO
BO	Borneo Rectified Skew Orthomorphic Grid
BW	British West Indies Grid
CB	California Coordinate System
CD	Canada British Modified Grid
CE	Ceylon Belt (Transverse Mercator)
CF	Canary Islands (Spanish) Lambert Grid
CG	Chile Gauss Conformal Grid
CH	China Belt
CI	Canary Islands Zone
CJ	China Lambert Zone
CK	Colorado Coordinate System
CM	Connecticut Coordinate System
CN	Caspian Zone
CO	Costa Rica Lambert Grid
CQ	Crimea Grid
CR	Crete Zone
CT	Cuba Lambert Grid
CU	Caucasus Zone
CV	Cape Verde Islands Zone
CW	British Cassini Grid
CX	Czechoslovak Uniform Cadastral Coordinate System
CY	Cyprus Grid
CZ	Czechoslovak Military Grid
DA	Danube Zone
DB	Dahomey Belt
DC	Denmark General Staff Grid
DD	Delaware Coordinate System
DE	Dominican Lambert Grid
DJ	Denmark Geodetic Institute System 1934
DK	Cape Verde Peninsula Grid
EA	East Africa Belt
EB	English Belt
ED	Egypt Gauss Conformal Grid
EE	El Salvador Lambert Grid

EF	Estonian Grid
EP	Egypt Purple Belt
ER	Egypt Red Belt
ET	Egypt 35 Degree Belt
FA	Fernando Poo Gauss Grid
FB	Fiji Grid
FC	Florida Coordinate System
FD	French Bonne Grid
FE	French Guiana Gauss Grid
FF	French Somaliland Gauss-LaBorde Grid
FI	French Indochina Grid
FJ	Franz Josef Land Zone
FL	French Lambert Grid
FO	Formosa (Taiwan) Gauss-Schreiber Coordinate System
FS	French Equatorial Africa Grid
GA	Gabon Belt
GB	Italy Gauss-Boaga Grid (Transverse Mercator)
GD	Gabon Gauss Conformal Grid
GE	World Geographic Reference System (GEOREF)
GF	Guadeloupe Gauss-LaBorde Grid
GG	Colombia Gauss Conformal Grid
GH	Sweden Gauss-Hanover Grid
GI	Georgia Coordinate System
GK	Gauss-Krueger Grid (Transverse Mercator)
GL	Greece Azimuthal Grid
GN	German Army Grid (DHG)
GO	Ghana National Grid
GP	Greece Bonne Grid
GQ	Greece Conical Mecklenburg Coordinates
GR	Greece Conical Mecklenburg Coordinate (New Numbering)
GT	Greenland Lambert Grid
GU	Guinea Zone
GV	Guam Coordinate System
GW	Guatemala Lambert Grid
GY	Guyana Transverse Mercator Grid
HB	Haiti Lambert Grid
HC	Hawaii Coordinate System
HD	Hawaii Grid
HE	Honduras Lambert Grid
HF	Hong Kong New System Cassini Grid
HG	Hungary Stereographic Grid
HK	Hong Kong Colony Grid
IA	Idaho Coordinate System
IB	Illinois Coordinate System
IC	Indiana Coordinate System
ID	Indonesia Mercator Grid
IE	Indonesia Polyhedric Grid
IF	Iowa Coordinate System

IG	Ivory Coast Azimuthal Grid
IH	Irish Cassini Grid
IJ	Ivory Coast Belt
IK	Irish Transverse Mercator Grid
IL	Iceland New Lambert Zone
IN	India Zone
IR	Iraq National Grid
IT	Italy Zone
IY	Ivy - Found on an HA in Marshall Islands
IZ	Iceland Zone
JA	Jamaica Foot Grid
JB	Japan Plane-Rectangular Coordinate System
JC	Japan Gauss-Schreiber Grid
JO	Johore Grid
KA	Austria Gauss-Krueger Grid
KB	Bulgaria Gauss-Krueger Grid
KC	Katanga Grid
KD	Kansas Coordinate System
KE	Kentucky Coordinate System
KF	Finland Gauss-Kreuger Grid
KG	German Gauss-Kreuger Grid
KH	Kenya Colony Grid
KJ	Korea Gauss-Schreiber Coordinate System
KK	Louisiana Coordinate System
KL	Lithuania Gauss-Kreuger Grid
KN	Kwantung Province Grid
KT	Turkey Gauss-Kreuger Grid
KW	Kwangsi Province Grid
KX	Luxembourg Gauss-Kreuger Grid
LC	Lambert Conformal Conic Grid
LD	Latvia Coordinate System
LE	Levant Zone
LF	Levant Stereographic Grid
LG	Liberia Rectified Skew Orthomorphic Grid
LI	Libya Zone
LL	Sirte (Libya) Lambert Grid
MA	Malaya Grid
MB	Malta Belt
MC	Maldives-Chagos Belt
MD	Madiera Zone
ME	Mediterranean Zone
MF	Maine Coordinate System
MG	Malaya Rectified Skew Orthomorphic (Yard) Grid
MH	Martinique Gauss Grid
MI	Maryland Coordinate System
MJ	Massachusetts Coordinate System
MK	Mexican Lambert Grid
ML	Michigan Coordinate System
MM	Mecca-Muscat Zone
MN	Minnesota Coordinate System

MO	Madagascar Grid (Laborde)
MP	Mississippi Coordinate System
MQ	Morocco Zone
MT	Missouri Coordinate System
MU	Mauritius Zone
MV	Montana Coordinate System
MW	Mozambique Lambert Grid
MX	Mozambique Polyconic Grid
NA	Northwest Africa Zone
NC	Nigeria Colony Belt
ND	National Grid of Great Britain
NE	Northern European Zone
NF	Nebraska Coordinate System
NG	Numeric Grid
NI	Niger Zone
NJ	Netherlands Stereographic Grid (Old Numbering)
NK	North Korea Gauss-Kreuger Grid
NL	Netherlands Stereographic Grid (New Numbering)
NM	Netherlands East Indies Equatorial Zone British Metric Grid (Lambert)
NO	Nord de Guerre Zone
NP	Nevada Coordinate System
NQ	New Sierra Leone Colony Grid
NR	New York Coordinate System
NS	Netherlands East Indies Southern Zone
NT	New Zealand National Grid
NU	Nicaragua Lambert Grid
NV	Niger Belt
NW	North Carolina Coordinate System
NX	North Dakota Coordinate System
NY	Netherlands East Indies Equatorial Zone U.S. Yard Grid
NZ	New Zealand Belt
OA	Northern Malaya Grid
OB	Norway Gauss-Kreuger Grid
OD	Ohio Coordinate System
OE	Oklahoma Coordinate System
OR	Orange Report Net
OS	Oregon Coordinate System
PA	Palestine Belt
PB	Panama Lambert Grid
PC	Palestine Civil Grid (Cassini)
PD	Paraguay Gauss-Kreuger Grid
PE	Peiping Coordinate System of 1954
PF	Pennsylvania Coordinate System
PI	Peru Polyconic Grid
PJ	Philippine Plane Coordinate System
PK	Poland Gauss-Kreuger Grid
PL	Poland Quasi-Stereographic Grid
PP	Philippine Polyconic Grid

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PQ	Portugal Bonne Grid, Old
PR	Portugal Bonne Grid, New
PS	Portugal Gauss Grid
PT	Puerto Rico Coordinate System
PU	Puerto Rico Lambert Grid
QA	Qatar Grid
QU	Qatar Peninsula Grid
RB	Russian Belt
RC	Reunion Gauss Grid
RD	Rhode Island Coordinate System
RE	Rumania Bonne Grid
RF	Soviet Coordinate System of 1942
RH	Rumania Lambert-Cholesky Grid
RI	Rumania Stereographic Grid
RT	Pulkovo Coordinate System of 1932
SA	South Africa Belt
SB	Senegal Gauss Conformal Grid (Belt)
SD	South Africa Coordinate System (Republic of South Africa)
SE	Senegal Belt
SF	South Carolina Coordinate System
SH	Sahara Zone
SI	South Dakota Coordinate System
SJ	South Libya Zone
SK	Sarawak Grid
SL	Spain Lambert Grid
SN	Southern New Guinea Grid
SQ	South Georgia Lambert Grid
SR	South Syria Lambert Grid
SS	Spanish North-Morocco Lambert Grid
SV	Svalbard Gauss-Kreuger Grid
SX	Svobodny 1935 Coordinate System
SY	Seychelles Belt
SZ	Spitzbergen Zone
TA	Tanganyika Territorial Grid
TB	Tashkent 1875 Coordinate System
TC	Tennessee Coordinate System
TD	Texas Coordinate System
TE	Tobago Grid
TF	Trinidad Grid
TG	Trucial Coast Cassini Grid
TH	Trucial Coast Transverse Mercator Grid
TI	Turkey Bonne Grid
TN	Tunisia Zone
UA	Uganda Cassini Coordinate System
UB	Unidentified Grid
UC	Uruguay Gauss-Kreuger Grid
UD	Utah Coordinate System
UP	Universal Polar Stereographic System
US	U.S. Polyconic Grid System

UT	Universal Transverse Mercator Grid
VA	Vermont Coordinate System
VB	Virginia Coordinate System
VE	Venezuela Modified Lambert Grid
VI	Viet Nam Azimuthal Grid
WA	West Malaysia Rectified Skew Orthomorphic (Metric) Grid
WB	Switzerland Bonne Grid
WC	Switzerland Conformal Oblique Cylindrical Grid
WD	West Virginia Coordinate System
WE	Wisconsin Coordinate System
WF	Wyoming Coordinate System
WP	World Polyconic System
YA	Yugoslavia Gauss-Kreuger Grid (Not Reduced)
YU	Yunnan Province Grid

5.3.3 Relationship code

The <relationship code> describes the relationship between two or more RPF [frame file]s. Valid codes are listed below.

Code	Description
1	Stereographic pairs
2	Legend Image
3-65535	Reserved for future standardization

5.4 NITF Registered Data Tags

The following codes are valid NITF registered data tags for use by RPF products which are written in an NITF message. [The official register of tagged data extensions is located under the RPF group at http://jitc.fhu.disa.mil/nitf/tag_reg/tag_reg.html.](http://jitc.fhu.disa.mil/nitf/tag_reg/tag_reg.html) Changes to this group are managed through the same DoD and NGA processes as the codes listed in this document.

Tag	Description
RPFHDR	User Defined Header Section for RPF
RPFIMG	User Defined Image Section for RPF
RPFDES	Data Extension Segment for RPF

6 NOTES

This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.

6.1 Intended use

This document is intended for use with MIL-STD-2411, Military Standard for Raster Product Format (RPF), and all specifications governed by that military standard. Identification codes and values tabulated in this document are the registered data values to be used in all products conforming to the RPF standard. The registered data values are included in this document, separate from MIL-STD-2411 so that new values can easily be added to the registered data set without modifying the governing standard.

6.2 Acquisition requirements

When this standard is used in acquisition, the applicable issue of DODISS must be cited in the solicitation (see 2.1.1 and 2.2).

6.3 International standardization agreements

This section is not applicable to this standard.

6.4 Subject term (key word) listing

RPF; Registered Data Values.

6.5 Changes from previous issue

See the summary of change 3 modifications on page iii. The margins of this standard are marked with vertical lines to indicate modifications generated by this change. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

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Custodian: NGA-MP

Preparing activity: NGA

Agent: AFMC

(Project GINT-2009-004)

Review activities:

Air Force - 09

Army - TI

Navy - NO

Marine Corps - MC

DISA - DC2

Appendix 3

CADRG Series Code Crosswalk

Series Abbr	Scale	Description	Current Series Code Production	Future Series Code Production	New Series Code Production Plan	Comment/Question
GNC	1:5M	Global Navigation Chart	GN	GN	In Production Now	No change
	1:5M	North Atlantic Route Charts	GN	EG	no earlier than Dec 2010	The original scale is 1:11,000,000 and will be produced at that scale.
JNC	1:2M	Jet Navigation Chart	JN	JN	In Production Now	
	1:2M	IFR Enroute High Altitude - US	JN	XF	no earlier than Dec 2010	Please note that not all IFR Enroute High altitude charts will be rescaled to 1:2M. There are 8 new IFR Enroute High codes that will be used in the future.
ONC	1:1M	Operational Navigation Chart	ON	ON	In Production Now	No change
	1:1M	IFR Enroute Low Altitude - US	MM	WD	no earlier than Dec 2010	Please note that not all IFR Enroute low altitude charts will be rescaled to 1:1M. There are 10 new IFR Enroute low codes that will be used in the future.
	1:1M	Enroute charts - East Europe & Asia	MM	Various		Please note that Enroute charts over east Europe and Asia have various scales and will be rescaled into fewer scales when produced. Please see rows 72-117 of this spread sheet.
TPC	1:500K	Tactical Pilotage Chart	TP	TP	In Production Now	
LFC Day	1:500K	Low Flying Chart (Day) - Non US	LF	LF		No change
SEC	1:500K	VFR Sectional	LF	ES	no earlier than Dec 2010	
LFC Night	1:500K	Low Flying Chart (Night) - Non US	LN	LN		
JOG-A	1:250K	Joint Operations Graphics - Air	JA	JA	In Production Now	No change
TFC (Day)	1:250K	Transit Flying Chart (Day) - Non US	TF	TF	In Production Now	
VTAC	1:250K	VFR Terminal Area Chart	TF	VT	no earlier than Dec 2010	
SEC	1:250K	VFR Sectional Insets	TF	ET	no earlier than Dec 2010	
TFC (Night)	1:250K	Transit Flying Chart (Night) - Non US	TN	TN	no earlier than Dec 2010	
HRC	1:125K	Helicopter Route Charts	VH	VH	no earlier than Dec 2010	
TLM100	1:100K	Topographic Line Map 1:100K	TC	TC	In Production Now	No change
TLM50	1:50K	Topographic Line Map 1:50K	TL	TL	In Production Now	No change
TLM25	1:25K	Topographic Line Map 1:25K	TT	TT	In Production Now	No change
HRC Inset	1:50K	Helicopter Route Chart Inset	N/A	V1	no earlier than Dec 2010	In Production as Geotiffs
HRC Inset	1:62.5K	Helicopter Route Chart Inset	N/A	V2	no earlier than Dec 2010	In Production as Geotiffs
HRC Inset	1:90K	Helicopter Route Chart Inset	N/A	V3	no earlier than Dec 2010	In Production as Geotiffs
HRC Inset	1:250K	Helicopter Route Chart Inset	N/A	V4	no earlier than Dec 2010	In Production as Geotiffs

CADRG Series Code Crosswalk

Series Abbr	Scale	Description	Current Series Code Production	Future Series Code Production	New Series Code Production Plan	Comment/Question
	1:50K	Range Charts 1:50,000	MM	R1	no earlier than Dec 2010	
	1:100K	Range Charts 1:100,000	MM	R2	no earlier than Dec 2010	
	1:250K	Range Charts 1:250,000	MM	R3	no earlier than Dec 2010	
	1:500K	Range Charts 1:500,000	MM	R4	no earlier than Dec 2010	
	1:1M	Range Charts 1:1,000,000	MM	R5	no earlier than Dec 2010	
	1:25K	Special Military Map - Overlay	MM	P1	no earlier than Dec 2010	
	1:25K	Special Military Purpose 1:25,000	MM	P2	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:25K	Special Military Purpose 1:25,000	MM	P3	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:25K	Special Military Purpose 1:25,000	MM	P4	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:50K	Special Military Map - Overlay	MM	P5	no earlier than Dec 2010	
	1:50K	Special Military Purpose 1:50,000	MM	P6	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:50K	Special Military Purpose 1:50,000	MM	P7	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:50K	Special Military Purpose 1:50,000	MM	P8	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:100K	Special Military Map - Overlay	MM	P9	no earlier than Dec 2010	
	1:100K	Special Military Purpose 1:100,000	MM	PA	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:100K	Special Military Purpose 1:100,000	MM	PB	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:100K	Special Military Purpose 1:100,000	MM	PC	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:250K	Special Military Map - Overlay	MM	PD	no earlier than Dec 2010	

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	1:250K	Special Military Purpose 1:250,000	MM	PE	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:250K	Special Military Purpose 1:250,000	MM	PF	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:250K	Special Military Purpose 1:250,000	MM	PG	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:500K	Special Military Map - Overlay	MM	PH	no earlier than Dec 2010	
	1:500K	Special Military Purpose 1:500,000	MM	PI	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:500K	Special Military Purpose 1:500,000	MM	PJ	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:500K	Special Military Purpose 1:500,000	MM	PK	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:1M	Special Military Map - Overlay		PL	no earlier than Dec 2010	
	1:1M	Special Military Purpose		PM	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:1M	Special Military Purpose		PN	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:1M	Special Military Purpose		PO	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:2M	Special Military Map - Overlay		PP	no earlier than Dec 2010	
	1:2M	Special Military Purpose		PQ	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:2M	Special Military Purpose		PR	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:5M	Special Military Map - Overlay		PS	no earlier than Dec 2010	

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Series Abbr	Scale	Description	Current Series Code Production	Future Series Code Production	New Series Code Production Plan	Comment/Question
	1:5M	Special Military Purpose		PT	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:5M	Special Military Purpose		PU	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:5M	Special Military Purpose		PV	no earlier than Dec 2010	The Special Military Purpose codes are place holders for NGA in case we need to use them.
	1:500K	1:500K mm Special Army use	MM	???		Special Army use not listed in proposed list of codes
	1:250K	1:250K mm Special Army use	MM	???		Special Army use not listed in proposed list of codes
	1:100K	1:100K mm Special Army use	MM	???		Special Army use not listed in proposed list of codes
	1:50K	1:50K mm Special Army use	MM	???		Special Army use not listed in proposed list of codes
	1:25K	1:25K mm Special Army use	MM	???		Special Army use not listed in proposed list of codes
	1:250K	IFR Enroute Low	MM	WA	no earlier than Dec 2010	
	1:500K	IFR Enroute Low	MM	WB	no earlier than Dec 2010	
	1:750K	IFR Enroute Low	MM	WC	no earlier than Dec 2010	
	1:1M	IFR Enroute Low	MM	WD	no earlier than Dec 2010	
	1:1.5M	IFR Enroute Low	???	WE	no earlier than Dec 2010	
	1:2M	IFR Enroute Low	???	WF	no earlier than Dec 2010	
	1:2.5M	IFR Enroute Low	???	WG	no earlier than Dec 2010	
	1:3M	IFR Enroute Low	???	WH	no earlier than Dec 2010	
	1:3.5M	IFR Enroute Low	???	WI	no earlier than Dec 2010	
	1:4.5M	IFR Enroute Low	???	WK	no earlier than Dec 2010	
	1:1M	IFR Enroute High		XD	no earlier than Dec 2010	
	1:1.5M	IFR Enroute High		XE	no earlier than Dec 2010	
	1:2M	IFR Enroute High		XF	no earlier than Dec 2010	
	1:2.5M	IFR Enroute High		XG	no earlier than Dec 2010	
	1:3M	IFR Enroute High		XH	no earlier than Dec 2010	
	1:3.5M	IFR Enroute High		XI	no earlier than Dec 2010	

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	1:4M	IFR Enroute High		XJ	no earlier than Dec 2010	
	1:4.5M	IFR Enroute High		XK	no earlier than Dec 2010	
	1:250K	IFR Enroute Area		YA	no earlier than Dec 2010	
	1:500K	IFR Enroute Area		YB	no earlier than Dec 2010	
	1:750K	IFR Enroute Area		YC	no earlier than Dec 2010	
	1:1M	IFR Enroute Area		YD	no earlier than Dec 2010	
	1:1.5M	IFR Enroute Area		YE	no earlier than Dec 2010	
	1:2M	IFR Enroute Area		YF	no earlier than Dec 2010	
	1:3.5M	IFR Enroute Area		YI	no earlier than Dec 2010	
	1:4M	IFR Enroute Area		YJ	no earlier than Dec 2010	
	1:12M	IFR Enroute Area		YZ	no earlier than Dec 2010	
	1:16.5M	IFR Enroute Area		Y9	no earlier than Dec 2010	
	1:250K	IFR Enroute High/Low		ZA	no earlier than Dec 2010	
	1:500K	IFR Enroute High/Low		ZB	no earlier than Dec 2010	
	1:750K	IFR Enroute High/Low		ZC	no earlier than Dec 2010	
	1:1M	IFR Enroute High/Low		ZD	no earlier than Dec 2010	
	1:1.5M	IFR Enroute High/Low		ZE	no earlier than Dec 2010	
	1:2M	IFR Enroute High/Low		ZF	no earlier than Dec 2010	
	1:2.5M	IFR Enroute High/Low		ZG	no earlier than Dec 2010	
	1:3M	IFR Enroute High/Low		ZH	no earlier than Dec 2010	
	1:3.5M	IFR Enroute High/Low		ZI	no earlier than Dec 2010	
	1:4M	IFR Enroute High/Low		ZJ	no earlier than Dec 2010	
	1:4.5M	IFR Enroute High/Low		ZK	no earlier than Dec 2010	
	1:9M	IFR Enroute High/Low		ZT	no earlier than Dec 2010	
	1:10M	IFR Enroute High/Low		ZV	no earlier than Dec 2010	
	1:12M	IFR Enroute High/Low		ZZ	no earlier than Dec 2010	
	1:16M	IFR Enroute High/Low		Z8	no earlier than Dec 2010	
ICM	1:8K	Image City Maps	C2	K1	no earlier than Dec 2010	
ICM	1:10K	Image City Maps	C2	K2	no earlier than Dec 2010	
ICM	1:10.56K	Image City Maps	C2	K3	no earlier than Dec 2010	
ICM	1:12.5K	Image City Maps	C7	K7	no earlier than Dec 2010	
ICM	1:12.8K	Image City Maps	C7	K8	no earlier than Dec 2010	
ICM	1:15K	Image City Maps	CD	KB	no earlier than Dec 2010	
ICM	1:16.6K	Image City Maps	CD	KE	no earlier than Dec 2010	
ICM	1:21.12K	Image City Maps	CL	KM	no earlier than Dec 2010	

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ICM	1:25K	Image City Maps	CR	KR	no earlier than Dec 2010	
ICM	1:26K	Image City Maps	CR	KS	no earlier than Dec 2010	
ICM	1:36K	Image City Maps	CT	KU	no earlier than Dec 2010	
MIM	1:25K	Military Installation Maps	MM	MH	no earlier than Dec 2010	
MIM	1:100K	Military Installation Maps	MM	MJ	no earlier than Dec 2010	